

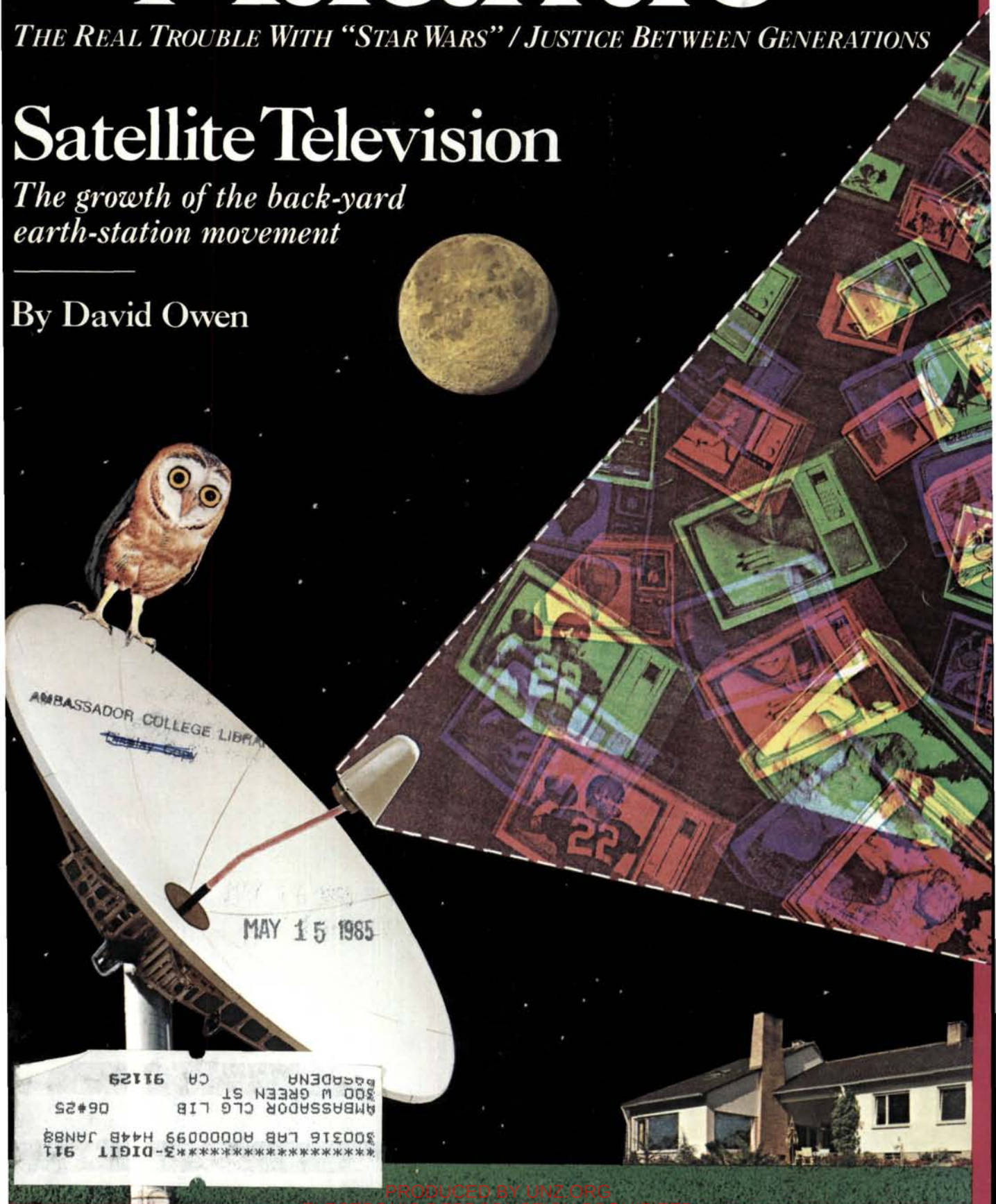
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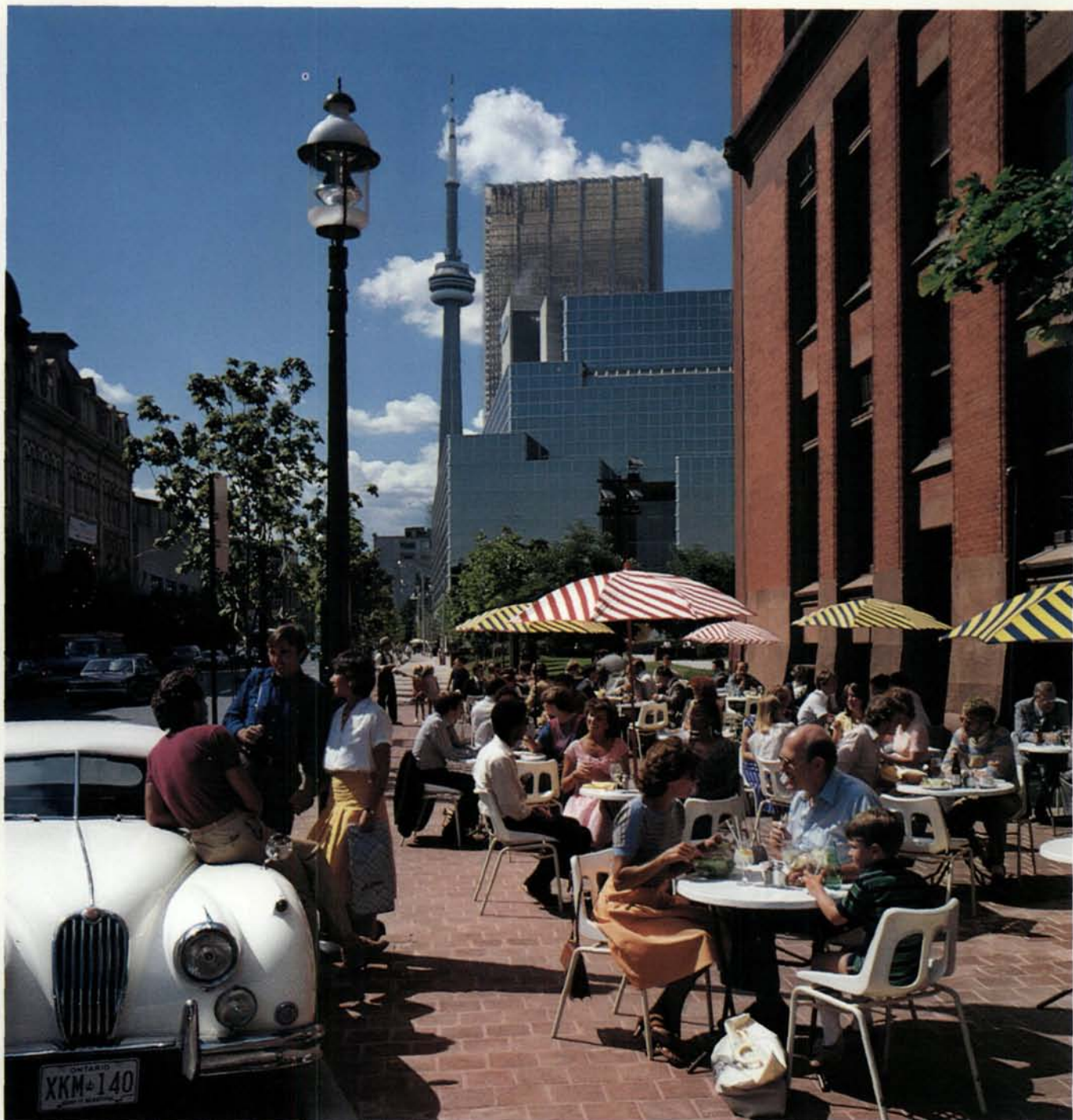
THE REAL TROUBLE WITH "STAR WARS" / JUSTICE BETWEEN GENERATIONS

Satellite Television

The growth of the back-yard earth-station movement

By David Owen





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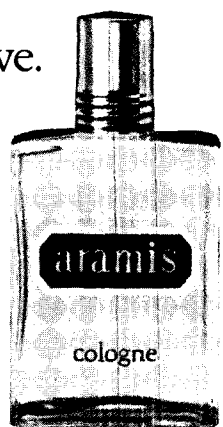
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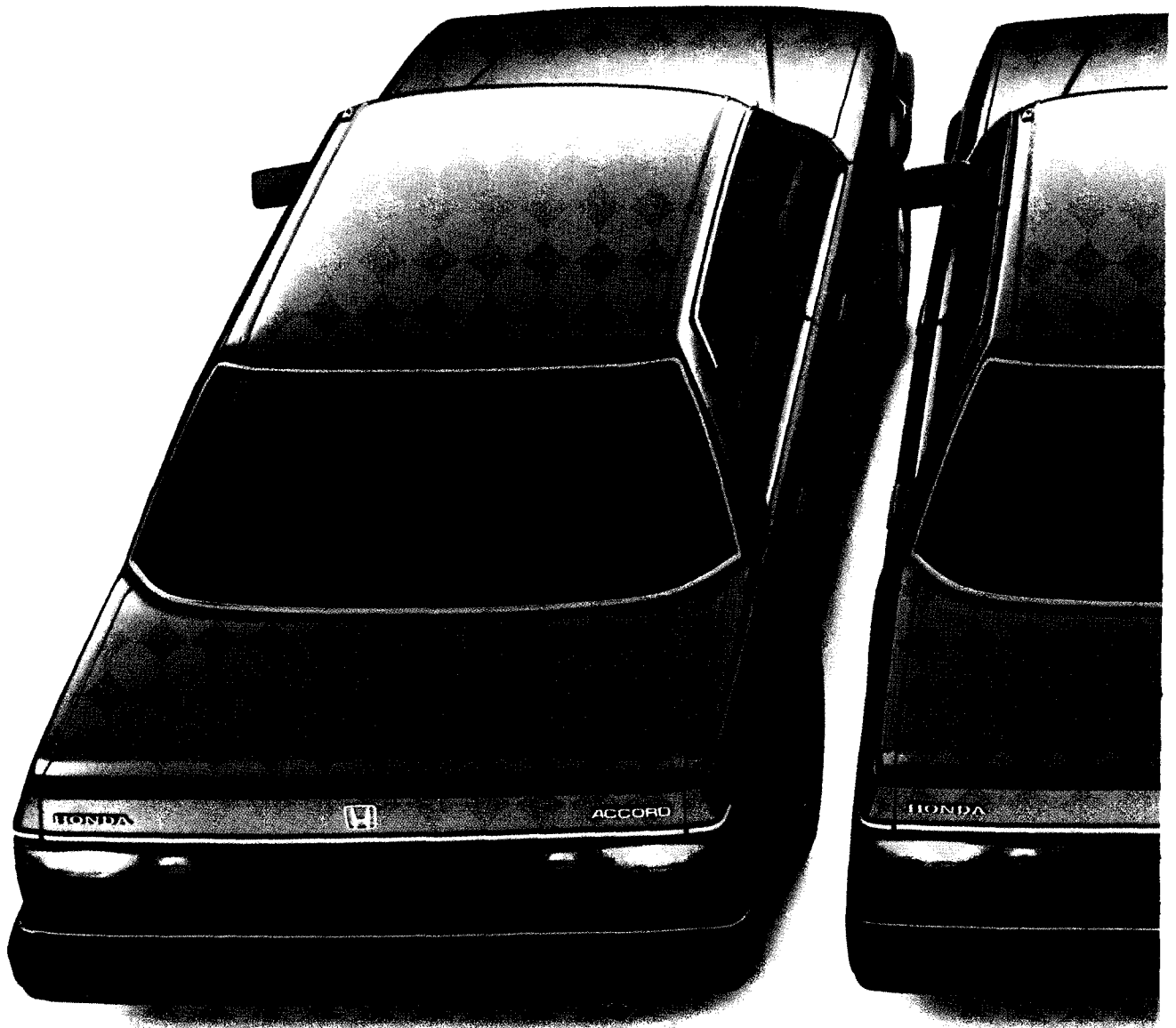
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g the standard.

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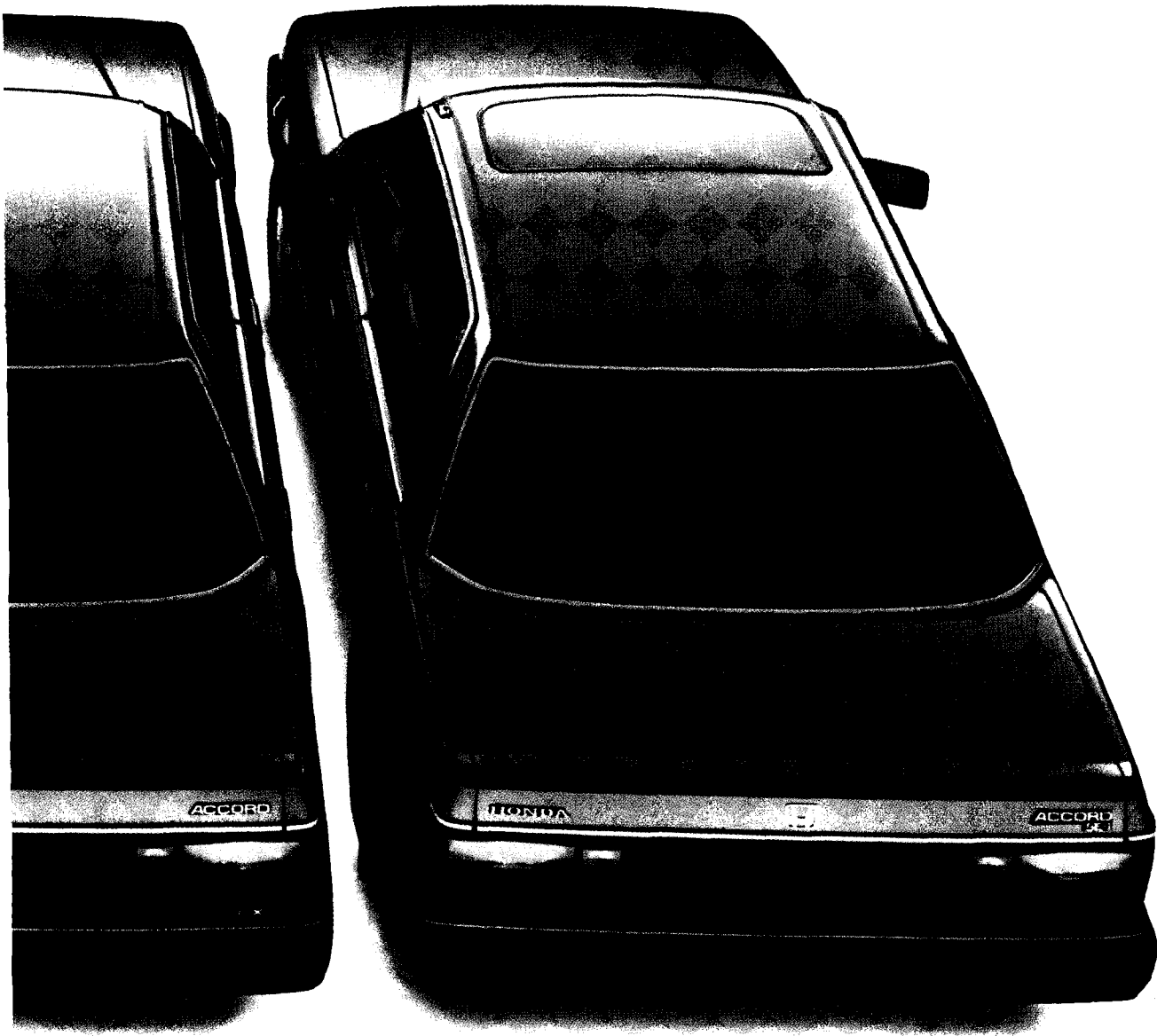
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LETTERS TO THE EDITOR

ECONOMIC LANDSCAPE

To James Fallows, "economic transformation" is the *positive* explanation for events that can be seen in an entirely different light ("The Changing Economic Landscape," March *Atlantic*). To be sure, all data are subject to multiple interpretations; it can even be said that "only" 25.2 percent of the labor force was jobless in the worst year of the Great Depression. As to other evidence attractive to Fallows:

—There may indeed be many "opportunities" in Houston, but its January, 1985, unemployment rate of 7.3 percent is a warning for those who might be contemplating flocking there in large numbers.

—Many farmers may indeed have been "pulled from the farms by the lure of city jobs, rather than pushed off by combines," but is this a reasonable interpretation of "the flight of Okies from the Dust Bowl"? *Non-farm* unemployment was 36.3 percent in 1932, 37.6 in 1933, 32.6 in 1934, and 30.2 in 1935. Where were all the "city jobs"?

—Wassily Leontief is assailed for suggesting "shorter work weeks" and "job sharing," because "the data . . . point in a different direction." But the forty-hour week is itself a relatively recent invention, having come about for the same reasons—too many workers for too few industrial jobs.

—It remains popular to cite steelworkers (along with auto workers) as a labor "aristocracy" because their wages exceed industrial averages. Instead of implying that wages paid in the Carolinas should be national norms, why not seek to *raise* the averages?

A focus on depressions and wars provides different explanations. The recovery from the depression of 1893–1898 was a by-product of Western imperialism motivated by the necessity of finding markets (at gunpoint) for excess industrial capacity, a form of competition that set the stage for the First World War. The industrial overcapacity that caused the 1929–1941 depression was "solved" because much of the world's industry was destroyed in the Second World War, only the United States remaining unscathed. Today the world is again awash in capacity, and *Business Week* even head-

lines the slump in the high-tech industries. We are closer to another depression than to prosperous "transformation." Fallows notwithstanding, all is *not* well.

FREDERICK C. THAYER

University of Pittsburgh Graduate School of
Public and International Affairs
Pittsburgh, Pa.

James Fallows leaves the reader with the impression that the emergence of America as a post-industrial society will have but minor consequence for workers' jobs and earnings. The data—even those upon which Fallows draws extensively—hardly support such a sanguine conclusion.

Fallows relies heavily on the research of the Brookings Institution's Robert Z. Lawrence, who claims to have proved that whatever decline *may* have occurred during the past decade in the relative standing of "middle-wage" workers was caused by the flooding of the labor market by the Baby Boom generation. Lawrence also shows only a slight growth in the share of the work force employed in low-wage jobs.

There are a number of technical problems with Lawrence's procedures, which make these results suspect and which should have raised some questions in Fallows's mind. But none is more important than the fact that Lawrence leaves part-time and part-year workers out of his calculations. People displaced from good jobs in older industries do not typically disappear from the labor force so much as they tend to drop into jobs that do not provide the opportunity for full-time or full-year work. Leaving them out of the story can distort the results rather dramatically.

The November, 1984, release of the U.S. Bureau of Labor Statistics's survey of displaced workers provides some evidence on this point. According to the BLS, 11.5 million workers lost their jobs to plant closings, plant relocations, or the abolishment of positions or production shifts between January of 1979 and 1984. Of these, 5.1 million had three or more years' tenure on the jobs they lost. Twenty-five percent of these experienced workers were still looking for work when surveyed in January of 1984. (Many of them were presumably picking

up "odd jobs" in the low-wage "underground economy.") Fourteen percent had dropped out of the labor force altogether and seven percent were in part-time jobs instead of the full-time jobs they had had before. Of the remaining workers—those who found new full-time positions—45 percent were earning less in their new jobs than in the ones they had lost. Thus, only 1.5 million (30 percent) of the 5.1 million displaced workers were earning as much or more after "deindustrialization" as before.

BENNETT HARRISON
*Professor of Political Economy
and Planning
MIT*

BARRY BLUESTONE
*Professor of Economics
Boston College*

James Fallows has visited one of the most depressed industrial communities in this country and has come away with a cheerful message: Only individuals are suffering; in the long run we will all gain from the changes that are disrupting their lives.

There is some historical truth here: disruptive economic changes that produce greater real productivity do create the possibility of improved well-being for all. Yet his case studies don't address the real concern. The problem is not that there are, in relative terms, declining industries and regions; the problem is that recent changes in the international economy vastly increase the ability of capital to move in search of cheaper labor, leaving communities and workers, in *all* parts of the country and in *all* industries, unable to negotiate any limits to ruthless competition.

Fallows argues that earlier economic changes were beneficial, so why shouldn't this one be the same? But while the gains in material well-being—and ultimately social equality—from the Industrial Revolution are very real, the horrors of that wrenching economic change were equally real. Should those who revolted against sweatshops, against child labor, against bare survival wages, have stood back and let progress take its course? Were not the gains we have made today a product of the "bargain" that, Fallows aptly points out, was struck between the forces of capitalism and those who resisted disruption and exploitation?

SUSAN COWELL
New York, N.Y.

James Fallows's impartiality makes the fruits of transition from one commercial base to the next seem equally bitter and sweet. This argues for the conclusion that the best government policy toward economic change is no policy at all. Indeed, though Fallows suggests general programs (for example, protection of pension funds and geographically uniform school funding) to ensure that economic realignment is fair, he advocates neither propping up foundering industries nor boosting emergent ones. To champion one side would require turning a blind eye to the seemingly compelling case for the other.

That is why government policy should promote economic evolution. As Fallows points out, change and migration are elixirs of vitality to a capitalist economy. In the long run, subsidizing supercomputer development and bank-rolling NASA's space station will do more to preserve competitiveness and vigor than will imposing steel-import quotas or government Buy America policies. Granted, favoritism toward new types of business hastens the arrival of pain to communities rooted in mature industries. Yet such pain is mild relative to the tragedy of national dependence on tottering enterprises and obsolete technologies.

BENJAMIN WRIGHT
Dallas, Texas

James Fallows replies:

I am surprised that an economist as original and distinguished as Frederick Thayer would advance the arguments contained in his letter. To take them in order:

—Houston's unemployment rate was 7.3 percent last January, but during the previous year, despite the crash in the oil market which was supposed to have destroyed the city's economy, it dropped from 8.0 percent to 5.9. During all that period Houston's unemployment rate was below the national average; it has *always* been below the national average, except for one month in 1983. Even now, when the auto industry has "recovered" and the oil business has gone bust, Houston's employment picture is far healthier than Detroit's. My point was not that everyone should move to Houston; it was that across the country jobs are being created as well as destroyed.

—Farmers were not lured to city jobs during the Depression, and I never said they were. In fact, despite the "flight of Okies from the Dust Bowl," the Depres-

sion was a period of unusually low migration, in keeping with the hypothesis that people generally decide to migrate because they are drawn toward areas of opportunity, rather than because they are fleeing from areas of trouble. The American population was more rural in 1940 than it had been in 1930.

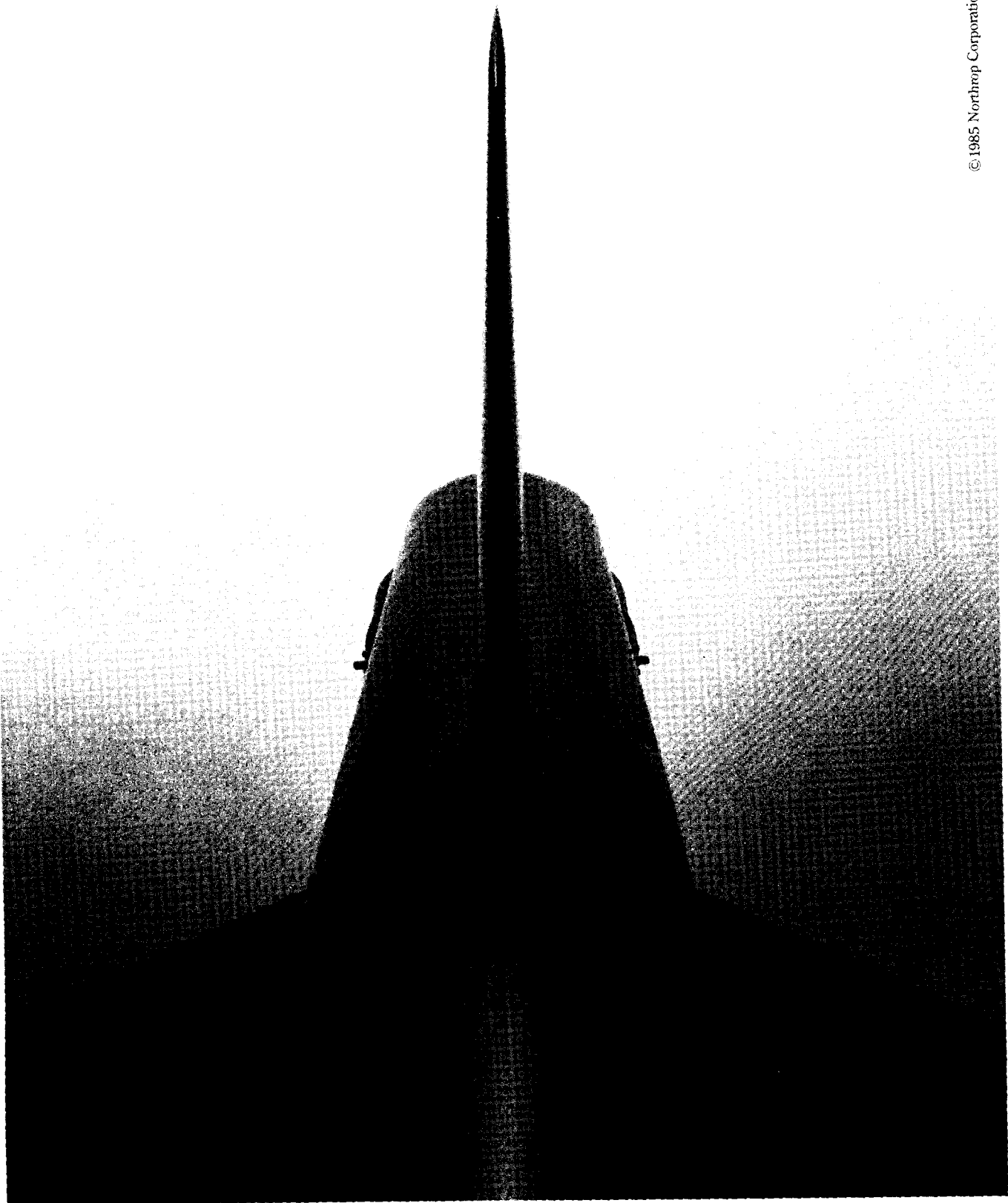
—The standard work week did decline from seventy hours in the nineteenth century to forty hours after the Second World War—but it has remained constant for forty years, *while the proportion of the population in the work force has steadily gone up*. Even though today's unemployment rates are higher than those of the 1950s and 1960s, a larger percentage of the population is employed than ever before in American history, because so many more people (mainly women) are in the work force. Therefore, the experience of the past forty years is exactly contrary to what Thayer suggests: the economy has steadily absorbed more workers, in both absolute and relative terms.

—In citing the low wages paid in the Carolinas, I never implied that they should be taken as the national norm. My purpose was precisely the opposite: to point out how much below the national norm they are. The reason for discussing the Carolinas—which have the nation's highest concentration of manufacturing workers—was to illustrate that the commonly assumed connection between manufacturing and high wages does not exist.

Bennett Harrison and Barry Bluestone are right: Robert Lawrence's data, which I quoted, did not include part-time workers. But the *Monthly Labor Review*, in its March, 1985, issue, published a study that included both part-time and full-time workers, and that essentially confirmed Lawrence's findings. The *MLR* study covered a time span slightly different from Lawrence's and used a slightly different system of grouping occupations, but it was similar enough that the comparison is fair. The study's author, Neal Rosenthal, compared the distribution of workers among high-, middle-, and low-wage occupations in 1973 with that in 1982. Because he included part-time workers, there were more people in the lowest group than if only full-time workers were counted; but he found almost no change over the period.

The study concluded:

Changes in the distribution of total employment among the top, middle,



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and bottom thirds of the earnings distribution between 1973 and 1982 were very similar to the changes that were shown when only full-time workers were considered. The top third increased, the bottom third declined, and the middle third declined very slightly (but not as much as the bottom third). These results also do not support the notion of bipolarization. Most importantly, none of [these] analyses show an increase in the bottom third, which is an important part of the bipolarization hypothesis. In fact, they all show a decline in the share of employment in the lowest group.

As for the Bureau of Labor Statistics's study of displaced steelworkers, I tried very hard in my article to make clear the real anguish and economic loss that people like the steelworkers I interviewed have endured. Indeed, the one finding of the BLS survey that surprised me was that as many as 30 percent of the veteran displaced workers *have* equaled or surpassed their previous earnings; my look at South Chicago would have led me to guess that the proportion would be smaller.

On the larger point raised by all these letters: I am depressed that anyone should have boiled down my article to an assertion that all is well, as Frederick Thayer puts it, or that child-labor laws, safety regulations, and the advances made by the labor movement should all be repealed, as Susan Cowell suggests. I am a fan and a supporter of the labor movement, and I look on it as the main hope for improving low-wage jobs. My purpose in researching and writing this article was not to deny that today's transformation is causing pain—how could I deny this, having spent time in South Chicago?—but to distinguish among the various ways of viewing the pain. Is it a sign of a fatal illness or of a malady the nation will overcome? Is it cancer or a broken bone? Is it different from other episodes in American history, or is it like events that we have experienced before?

To me, the evidence now available suggests that this is a transformation much like others the United States has endured—which means that it is cruel and traumatic, but is also connected to the process that creates new opportunities and allows the economy to adapt. Other people are obviously entitled to reach different conclusions—but not to distort my message into “What, me worry?” happy talk.

ISRAEL'S MERKAVA TANK

The author of “Israel's Chariot of Fire” (March *Atlantic*) has got to be joking when he suggests that a tank might be magnetized in order “to pull along the tank behind it, thereby halving fuel needs.”

Supposing it to be practical to tow a tank in this manner, the work of the lead tank would be doubled and its fuel consumption would increase accordingly. When it comes to free lunches, physics is just as dismal a science as economics.

LAWRENCE K. SHAPIRO
Brooklyn, N.Y.

Some design and production features of the Merkava tank are significant advances for Israel, but Peter Hellman has overstated the magnitude of these accomplishments, the age of previous Israeli armor, and the quality of Arab tanks.

First, a few factual errors. The Sherman tanks that Israel used in the Six-Day War could not have “been junked by the Allies” nearly three decades earlier. The first Shermans weren't even produced until 1942. One decade would be more like it, although some NATO countries still had Shermans in their inventories even in 1967.

The turret ring could not be twenty-eight feet in diameter. An entire Merkava would fit inside a ring that big. Mr. Hellman must have meant circumference, for a diameter of almost nine feet.

Mr. Hellman says that later models of the tank will be up-gunned to 125mm, which is the Russian T-64/72's caliber. The author may have more recent information, but the last I heard, the Merkava's British-American 105mm gun was scheduled to be replaced with the German 120mm smoothbore.

These mistakes don't diminish the aptness of the author's admiration for Israeli “wizardry” at adapting and maintaining old equipment, and for the noteworthy achievement in casting the turret.

ANDY TILLMAN
Athens, Oreg.

Peter Hellman replies:

I should have made it clear that the engineers' proposal to magnetize lead tanks was made in jest. It was meant to counter ideas advanced by their boss, General Tal (a non-engineer), which they regarded as imaginative but impractical—for now, anyhow.

WHERE WILL GARBAGE GO?

J. Tevere MacFadyen provides an assessment of New York City's solid-waste problem (“Where Will All the Garbage Go?” March *Atlantic*), but his article relies almost exclusively on interviews with officials of the New York City Sanitation Department, while ignoring many other individuals and groups who are playing key roles in resolving the garbage crisis.

A more thorough investigation would have shown that the Sanitation Department's initial proposal to build eight garbage-burning plants in New York had two major deficiencies: the proposed incinerators lacked the most advanced pollution controls, and virtually no consideration was given to the potential of recycling for reducing the city's waste burden. Only after extensive pressure from environmental and other public-interest groups did the Sanitation Department agree to modifications.

Now plans call for the garbage-burning plants to include scrubbers to control acid gases, auxiliary burners to help destroy dioxin and other toxic compounds, and fabric filters to control respirable particulates. In addition, the city is initiating pilot recycling programs for the recovery of high-grade office paper, newspaper, glass, and metals. If, as the Environmental Defense Fund contends, 25 percent or more of New York's garbage load can be recycled, the Sanitation Department could scale back the number and size of the incinerators that have been planned, thereby saving the city millions of dollars in capital investment.

ADAM C. STERN
*Environmental Defense Fund
New York, N.Y.*

New York City will undoubtedly solve its garbage problem, but I hope it does not write off refuse-derived-fuels (RDF) technology as quickly as did J. Tevere MacFadyen in his March Report.

Had he looked 150 miles up the Hudson, MacFadyen would have found what is probably the most efficient and successful RDF facility in the United States. The city of Albany's ANSWERS project (Albany New York Solid Waste Energy Recovery System) has been economically and safely producing more than 150,000 tons of RDF a year, which is used to heat the capitol and the Empire State Plaza.

Processing RDF, which is basically garbage that is shredded after the metals have been removed, has several advantages over the mass burning of garbage. The danger of boiler explosions is completely eliminated, because the RDF shredding facility can be separate from the boilers. Explosions are potentially more serious in mass-burning facilities, because the boiler is put out of service; if the RDF facility goes down, one just goes to oil or gas reserves. Also, burning RDF is far cleaner than mass burning unsorted garbage.

Mass burning of garbage has another steep downside. The capital costs are about twice those of a refuse-derived-fuels facility. New York City's officials (and MacFadyen) might do well to visit the capital city to see how successful an RDF facility can be when the job is done right.

W. DENNIS DUGGAN
Executive Deputy
City of Albany Department of Law
Albany, N.Y.

FOREIGN AID RECONSIDERED

Jack Shepherd's informative article in the April *Atlantic* ("When Foreign Aid Fails") contains an error that grossly inflates the scale of the Kenana sugar mill in the Sudan. He places the capacity of the mill at 170,000 tons; the correct figure is 17,000 metric tons. The largest sugar mill in the world, which is in Brazil, has a capacity of only 24,000 metric tons.

Despite the error, Shepherd's point is well taken. In large sugar factories the coordination between the harvesting and industrial operations is quite tricky. My own research on Cuban sugar factories indicates that the largest mills tend to be the most troublesome. Apparently, the Cubans have also made that discovery, because their newest mills have capacities of about 7,000 metric tons, significantly smaller than Cuban mills of earlier vintage have.

Large-scale agro-industrial factories work well only in conjunction with an infrastructure of techniques, natural endowments, public services, and organizational skills that may or may not be present in any given region or country. Shepherd rightly questions the common prescription of large-scale industrialization for all places and all times.

WILLARD W. RADELL, JR.
Indiana, Pa.

TRUST A POET TO KNOW IT.



Ogden Nash once wrote:
*There is something about a martini,
Ere the dining and dancing begin,
And to tell you the truth,
It is not the vermouth—
I think that perhaps it's the gin.*

Mr. Nash, we suspect, had Beefeater Gin in mind when he penned that little verse.

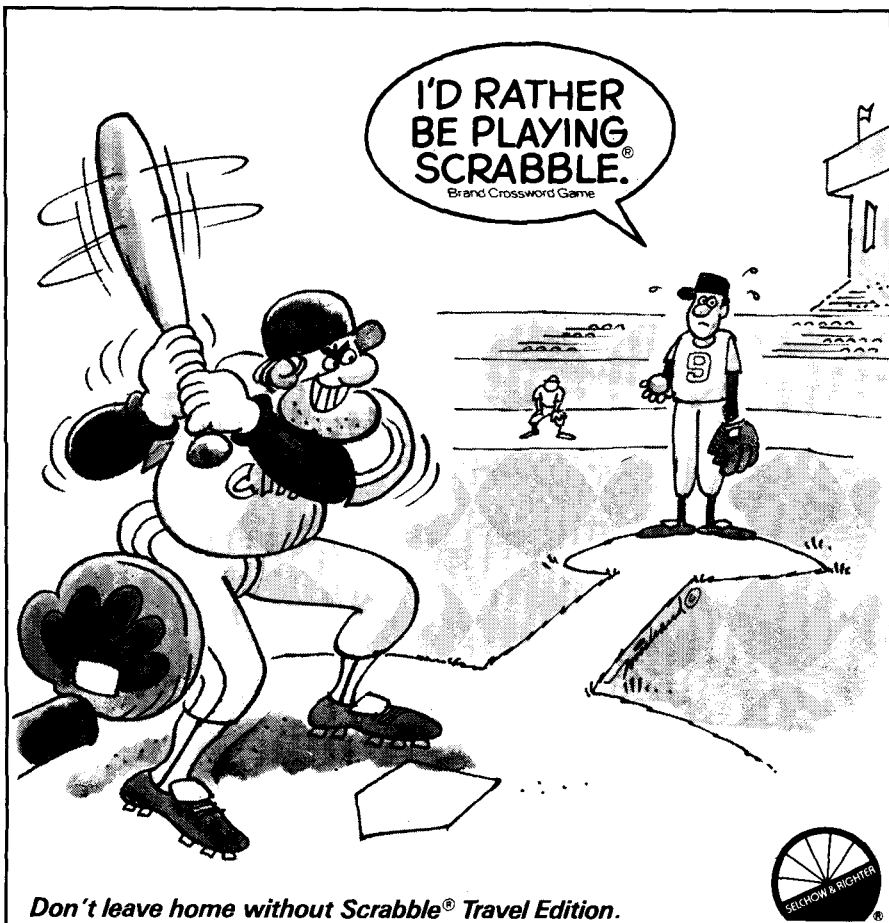
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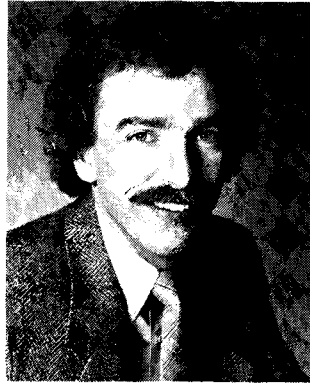


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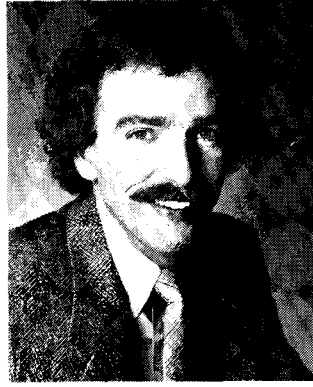
He was well qualified.

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great questions facing American
business today: in a world of
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can a company move ahead
without leaving good people
behind?



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In November 1975, Wayne was
selected to take an intensive IBM
training program in typewriter
inspection.

He spent over 250 hours
learning new skills.

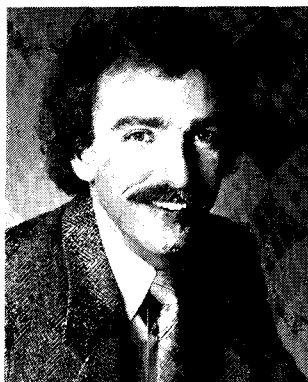
Soon after, he began work
with us as a Selectric™ typewriter
quality inspector.

He liked his new career.

And he did his job very well.

But in time, as a result of
new developments in typewriter
technology, he needed to learn
new skills.

(To find out about the next
page in his professional life, turn
this one.)



In 1980, Wayne Hazelwood began a new career.

In October 1980, Wayne was offered the chance to take IBM training in manufacturing instruction.

Within three months, he became an instructor for us.

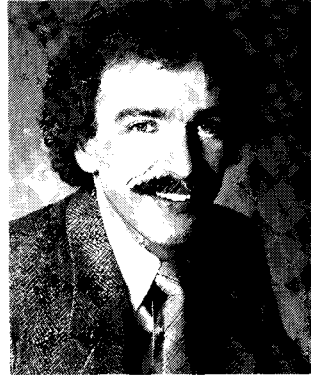
He was able to use his sixteen years of experience in manufacturing to teach others who were just beginning.

He found his new career to be extremely creative.

And, as always, he did a terrific job.

But because of changes in our product line, well, you know what can happen.

And by now, you know that the ability to change, when changes demand it, is what Wayne's story is all about.



Guess what.

Today, Wayne Hazelwood is a valued member of our electronic card assembly technical staff.

And his twenty-one years and four careers at IBM speak as eloquently about retraining as anything we could say.

Over the years, we've retrained thousands of our employees by offering them the opportunity to learn new skills.

People who worked in supplies manufacturing are now senior assemblers. Customer engineers have been retrained as education coordinators. Machine operators have become senior inspection specialists.

Retraining has shown us how a company and its employees can change together in a changing world. Above all, it has shown us that jobs may come and go.

But people shouldn't.

IBM is a leader in the field of electronic card assembly. We have a long history of innovation and excellence. Our employees are the key to our success. We are committed to providing them with the best training and development opportunities available. This is a testament to our belief in the power of retraining.

We can't buy back the past.

American
artisans
hand-
crafted
careful detail and
elegant lines into

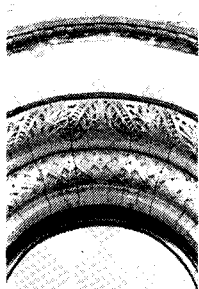
thousands of our historic buildings. We can't afford

to build by hand today. But we can continue to enjoy these architectural legacies if we restore those still standing. Let's find uses today for yesterday's fine buildings. With a little imagination,

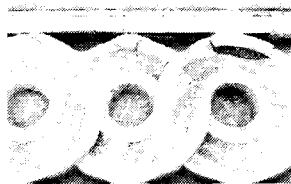


many of them can be adapted to our modern lifestyles. All across the country historic buildings are being revived. People who care about our architectural heritage are finding innovative adaptive uses for once deserted

structures. They're becoming homes, offices, apartments, shops, restaurants—all with unique character that can't be created today. Yet in a few more years, it may be too late to save



many buildings. Help us safeguard our historic treasures for future generations. Join The National Trust for Historic Preservation. For membership information, write Membership Department, Office of Public Affairs, The National Trust for Historic Preservation, 740 Jackson Place, N.W., Washington, D.C. 20006.



Re Jack Shepherd's one reference to Canada's aid projects:

The six 10,000-acre wheat farms in Tanzania—managed by Canada's federal Agriculture Department and funded by the Canadian International Development Agency—are rated by most students of development assistance as a very successful project. They are already meeting half of Tanzania's wheat requirements—thus reducing the need for imports and saving critical foreign-exchange dollars—and are expected in time to meet all of them.

The decision to develop the great plain area was made because that area lends itself to modern dryland farm technology and would not interfere with the traditional farming areas, where maize, millet, sorghum, and other more normal African crops are grown by indigenous farmers.

The land was not taken from the Barbaig, as Mr. Shepherd suggests. The Barbaig are one of a number of groups who used the large, sparsely populated grasslands for grazing. The reasons behind the overgrazing that is affecting the area are under study, but the development of 60,000 acres of wheat land is only a small aspect of the problem, if any aspect at all. The wheat stubble also provides grazing.

I don't fault Mr. Shepherd for writing about the failures of foreign aid. Taxpayers need to know when mistakes are made with their money. However, I would like to see him write a similar article on foreign aid that succeeds. He would have a lot more examples to choose from.

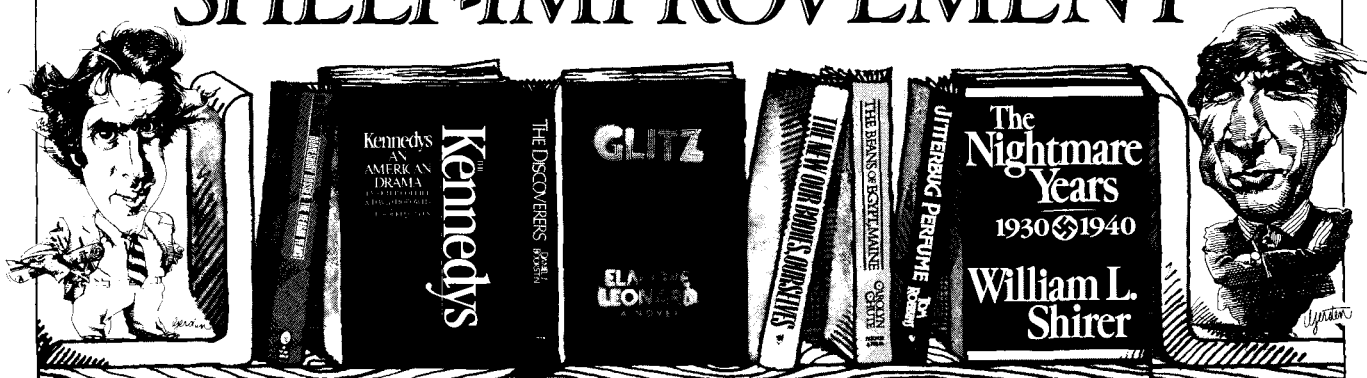
CHARLES BASSETT
*Vice-President
Anglophone Africa Branch
Canadian International
Development Agency
Hull, Quebec*

Jack Shepherd replies:

Dr. Radell both corrects the record and corroborates the basic argument: even removing the errant zero that crept on to the capacity of Sudan's Kenana sugar mill, the mill remains one of the world's largest monuments to unsuccessful foreign aid.

I rather doubt that the Barbaig share Mr. Bassett's enthusiasm for the Canadian wheat scheme that removes 60,000 acres of their primary grasslands from grazing—as Mr. Bassett implies—and leaves them on land that suffers from overgrazing, as both he and I agree.

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REPORTS & COMMENT

WASHINGTON

THE "STAR WARS" DEFENSE WON'T COMPUTE

The software problems posed by missile defense are too great for the existing computer capability

THE PENTAGON'S plans for the 1990s evoke a science-fiction film festival: robot tanks prowl battlefields, silicon co-pilots ride shotgun in dogfights, and computers scan the skies, poised to fire anti-missile missiles without human guidance or decision. The Pentagon wants "brilliant" (that is, smarter than smart) computer programs for battlefield and strategic weapons. Defense planners hope to open a new round in the arms race, one the United States can't lose. Some visionaries believe that computer science now stands at a threshold very like the one crossed by nuclear physics around 1940. They expect that in future battles the computer itself will become the most important weapon in the arsenal, while the platforms that carry it (tanks, ships, and drone aircraft) and the munitions that it discharges (conventional or nuclear) will be relegated to the status of mere accessories.

The hardware projects are ambitious, but far more so are the plans to create software—the programs, or lists of instructions, that tell the computers what to do. The Pentagon is planning the largest programs ever conceived, containing millions of instructions. Not only will these programs be larger than any now in existence but they are supposed to transcend the rigid routines of today's programs and attain a flexibility

approaching human thought. Computers with these characteristics represent the yet-to-appear "fifth generation" of computer technology—they exhibit "artificial intelligence."

The technologies involved in these computers do not yet exist, and whether or not they ever will is controversial. Yet they are vital to the success of several costly weapons programs, most notably the \$26 billion Strategic Defense Initiative (SDI), better known as the Star Wars missile defense. Robert Cooper, the head of the Defense Advanced Research Projects Agency (DARPA), the Pentagon's main agency for basic research, promises that the new computers will be "an enabling technology for a defense as complex as may be necessary for ballistic missile defense." Many computer scientists are skeptical, however. They think that we are betting the security of the country on hypothetical discoveries that may never occur. The Pentagon alludes to these as basic research projects, not applied research to

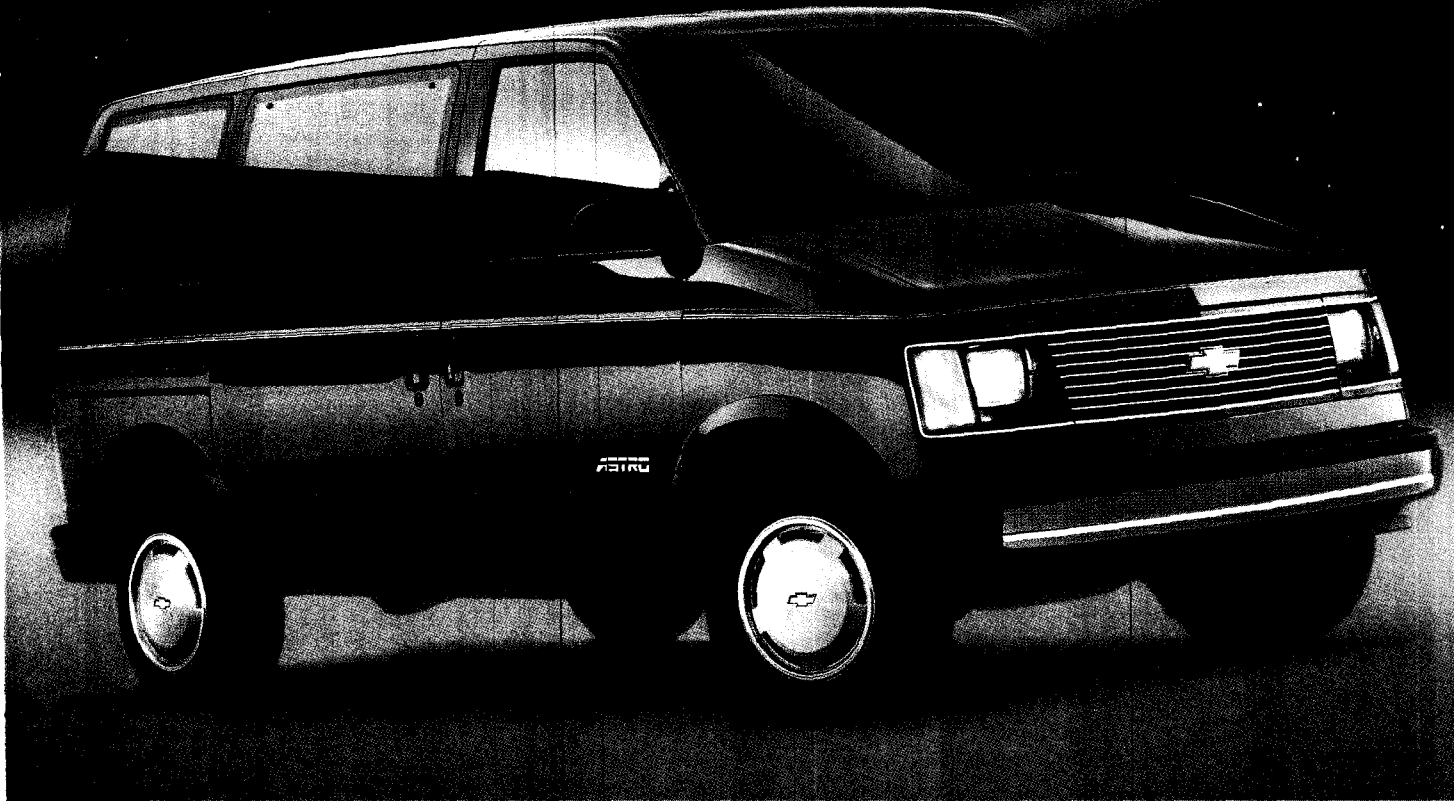
develop weapons for the field. But we are already concentrating our research resources on them and are therefore abandoning alternatives. In the future we may find that we have become committed by default and that we have to use the results of these projects, no matter how far short of today's promises they may fall.

The Department of Defense (DoD) is now subordinating computer science to military needs as completely as nuclear physics, aeronautics, and rocketry were subordinated in the 1940s. An unprecedented flow of DoD dollars is intended, in the Pentagon's words, to "push" and "pull" the nation's computer scientists into working on "carefully selected military applications." At a time when Japan is funding an effort of similar scope to dominate the commercial computer market (about which more later), the wisdom of militarizing computer science is doubtful. The Pentagon admits that "the magnitude of this national effort could represent a very large per-



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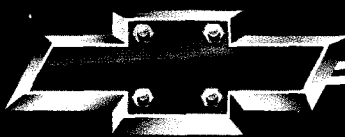
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LET'S GET IT TOGETHER... BUCKLE UP.



ASTRO

NOTHING WORKS LIKE A CHEVY VAN

turbation to the university community"; nonetheless, there has been little opposition from computer scientists. A few hope for a Pax Americana guaranteed by uncontested technological prowess rather than by the traditional sorts of military power. Others are skeptical, but most are indifferent to the political implications of the bottomless well of defense-contract money for their research projects and businesses.

So the work begins. An aura of naive overconfidence hangs over much of the effort. The proposals and progress reports suggest attitudes shaped in seminars on the campus of a suburban defense think tank, not on the battlefield or training ground. They reveal a fascination with abstruse theory and a delight in virtuoso puzzle-solving coupled with a nonchalance toward practical problems and a flip disregard for safety and reliability. While DoD is attempting to persuade the public that infallible robot warriors will remove the risk and uncertainty from combat and permit Americans to wage wars without casualties, the race to close the incipient robot gap is already on. At a Moscow trade fair last fall the Moscow Academy of Sciences announced a five-year, \$100 million program by Soviet and Warsaw Pact scientists to develop fifth-generation computer technologies for the Eastern bloc.

FIFTH-GENERATION computing technology is slated for application in many DoD programs, but the most extreme examples occur in something called the Strategic Computing Program (SCP). This five-year, \$600 million project was announced in October of 1983 by DARPA, and it got under way last year, with a first-year budget of \$50 million.

The central goal of the project is to apply a family of programming techniques called "artificial intelligence" to a new generation of brilliant weapons that would be able to perform complex missions without human guidance. It is described in the DARPA report *Strategic Computing, New-Generation Computing Technology: A Strategic Plan for Its Development and Application to Critical Problems in Defense*. If the goal is even partially achieved, future historians might rank this remarkable document with Albert Einstein's 1939 letter to President Roosevelt recommending development of the atomic bomb. Its peculiar tone, at once extravagant and vague, is difficult to convey in paraphrase. It begins:

Instead of fielding simple guided missiles or remotely piloted vehicles, we might launch completely autonomous land, sea, and air vehicles capable of complex, far-ranging reconnaissance and attack missions. . . . In contrast with previous computers, the new generation will exhibit human-like, "intelligent" capabilities for planning and reasoning. . . . Using this new technology, machines will perform complex tasks with little human intervention, or even with complete autonomy. . . . Our leaders will employ intelligent computers as active assistants in the management of complex enterprises.

The report concludes that "the possibilities are quite startling, and could fundamentally change the nature of future conflicts."

The SCP pilot projects already under way are various. For the Army there is an "autonomous land vehicle," a sort of unmanned robot tank, which would be capable of roving independently and would be entrusted with such missions as "deep-penetration reconnaissance . . . and weapons delivery." For the Air Force there is the "pilot's associate," a silicon co-pilot to be installed in a fighter aircraft to help operate the electronic-warfare equipment and to impart "instruction on advanced tactics from more experienced pilots to aid the less experienced pilot on his first day of combat." A third project is to be a computer system aboard the aircraft carrier USS *Carl Vinson* devoted to intelligence analysis, to help the Navy fight battles at sea. DARPA expects that the lessons learned in these projects will be applied in a far more ambitious undertaking, an automated ballistic-missile defense system—Star Wars.

Most criticism of Star Wars has concentrated on the physical difficulties of destroying large numbers of missiles in flight, but there are unsolved problems of similar magnitude in controlling such a system, even if one could be developed. In a September, 1983, interview in *Omni* magazine, Defense Secretary Caspar Weinberger described the problem and explained his confidence in computer technology as the answer.

WEINBERGER: The goal would be to try it against thousands of missiles, including missiles that carry ten independent warheads, and missiles whose warheads can change direction. It is, I am told, essentially a problem in very, very large and extraordinarily rapid computer capability. We must

develop that to the point where we can reliably identify, track, and destroy several thousand targets in a very, very short space of time.

OMNI: You are talking about a total battle time of as little as possibly one hundred twenty or two hundred seconds?

WEINBERGER: It is very short. It is a very big task—a task about which a lot of people say, "Well, we can't do it." But then, a lot of people said that we couldn't fly.

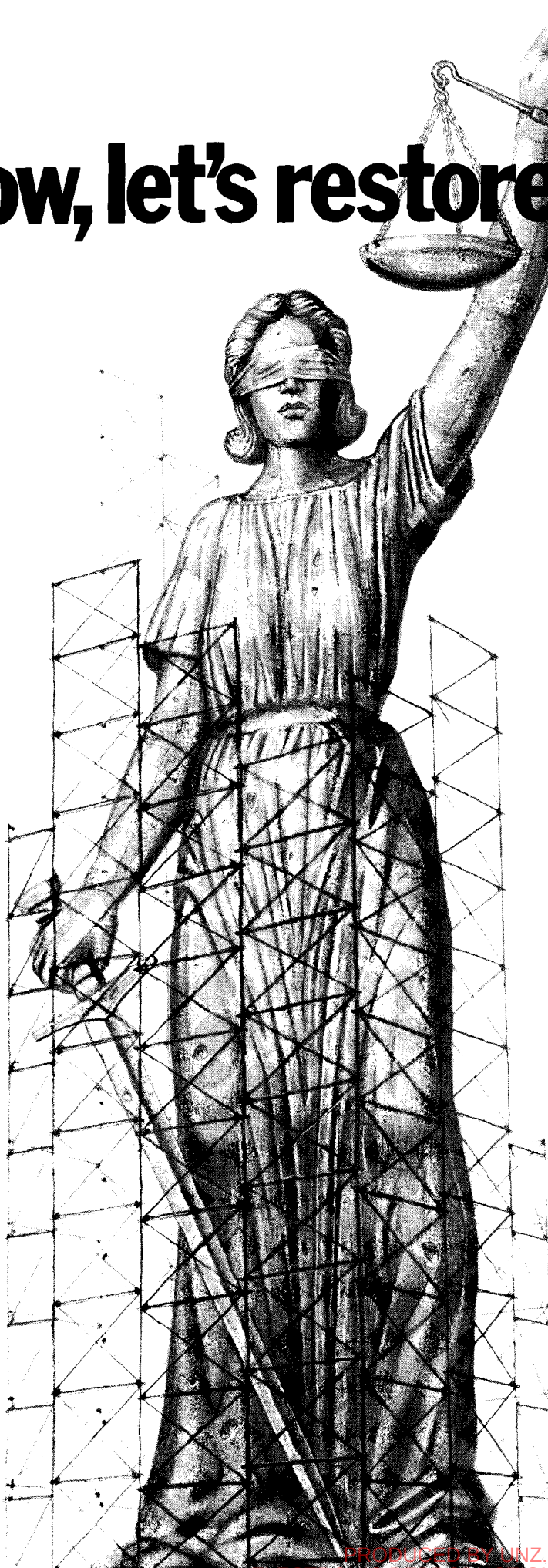
The missile-defense proponents appeal to computers for the solutions to all sorts of unresolved difficulties. In response to the comment of one critic, Richard Garwin, that an adversary could cheaply foil such a defense by filling the sky with decoys, the President's science adviser, George Keyworth, told *Omni*, "The thing to focus on is data processing. If you can handle enough data fast enough, you can do a pretty darn good job of discrimination."

The most startling aspect of the missile-defense proposals is that the decision to fire must be made automatically. Analysts agree that given the speed of incoming missiles there is no question of human observers even participating, much less notifying their commanders and waiting for orders. DoD's Fletcher panel, which analyzed the proposed Star Wars system, claimed, "It seems clear . . . that some degree of automation in the decision to commit weapons is inevitable if a ballistic missile defense system is to be at all credible." The computers would make the judgment that an attack was in fact under way, based on information (itself processed by computer) from observation satellites and perhaps from ground-based radars. This expectation is explicitly spelled out:

Commanders remain particularly concerned about the role autonomous systems would play during the transition from peace to hostilities when rules of engagement may be altered quickly. An extremely stressing example of such a case is the projected defense against strategic nuclear missiles, where systems must react so rapidly that it is likely that almost complete reliance will have to be placed on automated systems.

DARPA's intent to delegate to computers the authority to fire missile interceptors was reiterated by Keyworth and by Robert Cooper, before the Senate Foreign Relations Committee in April of 1984. As reported by the *Seattle Times*, they testified that the proposed systems

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would need to be triggered on extraordinarily short notice.

"Who's going to make that decision?" said [Senator Paul] Tsongas.

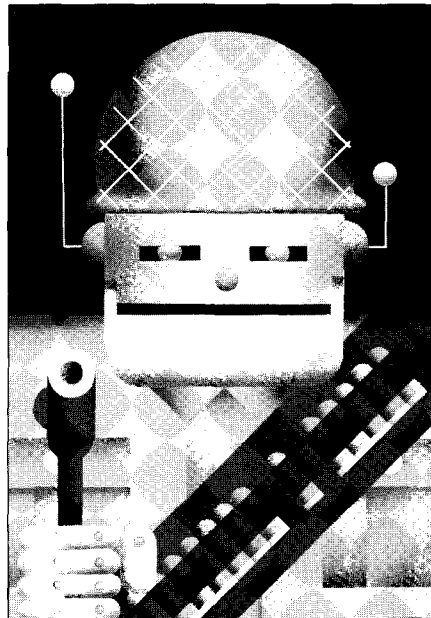
"We don't know," said Keyworth. "By the year 1990, it may be done automatically."

Later, according to an Associated Press account, "Sen. Joseph Biden, D-Del., pressed the issue over whether an error might provoke the Soviets to launch a real attack. 'Let's assume the president himself were to make a mistake . . .,' he said. 'Why?' interrupted Cooper. 'We might have the technology so he couldn't make a mistake.'" The underlying assumption here seems to be that with refinements and elaborations the computers within warning-and-launch systems could replace human observers and decision-makers—whose judgments do not now depend completely on the correctness and reliability of those computers. Experience with existing military computer systems suggests that this is a fundamental misconception, potentially a mortally dangerous one.

Administration weapons spokesmen have considered the possibility that the missile-defense computer might fail. Keyworth and Lieutenant General James Abrahamson, the director of the Strategic Defense Initiative, have indicated that the computers might be turned on only during crises. Abrahamson even speculated that we might warn the Russians when this occurs, so that they could be sure to be extra careful. Last year he told the House Appropriations Committee, "Under a crisis decision you would probably escalate this in the way that says if there is no crisis many of the automatic features would be shut down and turned off. But were a crisis to build, the President would make those decisions ahead of time, and he would probably tell the Russians, 'Okay, now I am activating an important part of our system,' which means that it is automatic. Hopefully that would begin to reduce the crisis."

These comments reveal how untenable the proposals really are. Keyworth's and Abrahamson's suggestions that the system would be activated only during crises strongly imply that even they do not believe that the system could be made very reliable: if we leave it turned off most of the time, we might reduce the chance of an accident. But many analysts have observed that a crisis is ex-

actly the worst time to delegate control to an unstable system. The chances that there will be some incident that triggers a false alert are probably greater then, and the consequences of responding to a false alert could be much worse. Alan Borning, a researcher in artificial intelligence at the University of Washington, has written about our present-day systems, "During times of relative international calm, the combined U.S.-Soviet system probably has enough human checks . . . to cope with a single mechanical or operator error. . . . The situation would be different during a time of great tension or conventional war. Under such circumstances, the officers monitoring the systems would be less ready to dismiss a warning as being the result of a



computer error, and the danger of escalating alerts on each side would be much greater."

EXPERIENCE TEACHES that we cannot rely on computers in situations of great uncertainty. Yet these are the situations in which DARPA hopes to rely on autonomous machines. Rather than commanders "forced to rely solely on their people to respond in unpredictable situations," DARPA hopes to have supercomputers that will "provide more capable machine assistance in unanticipated combat situations." The error here is a fundamental one, but DARPA proposes to patch it over by simply adopting some new techniques, most of which are borrowed from artificial intelligence (AI).

As the name implies, this is a field

with almost mythic ambitions: the creation of computer programs that imitate the human mind. If such protean programs really existed, one might argue that they should be exempt from the human supervision required for lesser machines. DARPA presumes that they will soon exist. In fact AI is an immature field, still far short of its ambitious goals, although, as the computer scientist Severo Ornstein and Brian Smith and Lucy Suchman, of the Xerox Palo Alto Research Center, have written, "Shortcomings are often masked by subtle semantic shifts. When we fail to instill 'reasoning' or 'understanding' in our machines, we tend to adjust the meaning of these terms to describe what we have in fact accomplished." Ornstein says, "As a concept, AI is like jelly—when you push on it in one place, it just goes someplace else. It is really just a term we apply to problems that seem intractable. Once they are thoroughly solved, they are not AI anymore but just another computer program."

Artificial-intelligence programming has been done mostly in university laboratories, not at defense plants. Because of the different needs and goals in these two environments, two quite different programming cultures have grown up. On the one hand, most of DoD's programmers work with "embedded" computers (computers included in larger systems, such as weapons or vehicles) destined for the field, are strongly oriented toward issues of reliability and maintenance, and try to build systems whose behavior is tightly specified in advance. These values prevail in other arenas, such as medicine and industrial applications other than weapons, where safety is an important consideration. Programmers who hold these values often refer to themselves as "software engineers."

The university programmers oriented toward artificial intelligence, on the other hand, favor open-ended research. They have no need for highly reliable systems, so dependability has never been a priority for them, and a decidedly casual attitude toward errors prevails. This group is sometimes described as "hackers." (The term is much older than its recent connotations of juvenile computer crime, and derives from the usual meaning of *hack*, "to cut irregularly, without skill or definite purpose.") It is this group that DARPA plans to enlist in the Strategic Computing Program.



"I could go for something Gordon's"

The possibilities are endless



THE GLAMOUR FIELD of the eighties in computer science is definitely AI. Some researchers believe that discoveries imminent in AI will permit computers to recognize objects in video images and converse with humans in natural language, making it possible to build robots much like those of the popular imagination. Others are more conservative but expect the research to yield results of great practical and commercial value. AI's vast potential has been vigorously promoted to the public and to the business community, through popular magazine articles and books, including Edward Feigenbaum and Pamela McCorduck's *The Fifth Generation*. As a result there has been a great deal of investment, or at least talk of investment, in the field. Some economists and business leaders agree with Feigenbaum and McCorduck that in the near future prowess in AI will replace pretty much everything else as the vital ingredient in a nation's economic health.

Supporting AI, therefore, has become practically a patriotic duty. DARPA played heavily on this sentiment to launch its Strategic Computing Program. But the real boost for AI in this country came with the news that the Japanese had launched their major national effort to exploit AI in the commercial marketplace. In October of 1981 the Japanese Ministry of Trade and Industry announced a ten-year, \$850 million Fifth Generation Computer Systems Project, to be carried out at its Institute for New Generation Computer Technology, with the assistance of industrial giants like Hitachi and Mitsubishi. The idea is to apply the fruits of research accomplished at the institute throughout Japanese industry. The announcement frightened U.S. computer firms. Already dominant in consumer electronics, Japan was also competitive in the integrated-circuit components used in all computers. Now it was preparing to take over computer design, software, services—everything.

At about the same time, DARPA was seeking support in Congress for what was to become the Strategic Computing Program (then called the supercomputer project). DARPA staffers began putting out the word on Capitol Hill that this would be the U.S. response to the Japanese Fifth Generation. "I don't think \$50 million is enough," said Anthony Battista, a House Armed Services Committee staff member, about DARPA's first-year funding request. He added,

"[The supercomputer is] a problem that goes far beyond the Defense Department; it trends directly into our whole economic base." A few days later a favorable editorial appeared in *The Washington Post*. The SCP was funded.

But whereas the Japanese project is intended to enhance business and consumer productivity and to improve social services, Mark Stefik, a scientist at Xerox, notes, "the American plan is rationalized by military needs, and secondarily commercial values."

In fact, by concentrating on military applications the United States may be handicapping itself in the commercial race. For example, some SCP discoveries may be unavailable for commercial development. Ed Zschau, a Republican congressman representing a Silicon Valley district, has said, "We may find that the technology gets bottled up inside the military establishment. My concern is that specific technological breakthroughs . . . may be classified . . . and therefore may be difficult to get out into the private sector."

Even worse, the SCP will drain talent away from commercial development projects. DARPA denies that the problem exists, making the peculiar argument that business is not interested in developing advanced computer applications anyway. In February of 1984 Robert Cooper told a meeting of electronics engineers that backing the SCP is "buying an insurance policy against IBM management's decision not to pursue machine intelligence through the 1990s. They have abandoned supercomputers, believing that such investments don't yield a good payoff." Richard DeLauer, a former undersecretary of defense for research and engineering, has said, "The Defense Department should press this technology, because no one else is pursuing it, and the Japanese have strong programs." This is simply not true. The real U.S. response to the Japanese effort lies in commercial consortia like the new Microelectronics and Computer Technology Corporation (MCC). Launched in January, 1983, with a \$75 million yearly budget, by industry giants like Control Data, Digital Equipment, Motorola, and others (not including IBM), MCC is headed by retired Admiral Bobby Ray Inman, a former director of the National Security Agency and a former deputy director of the CIA. Of the SCP he says, "The real problem is that ultimately we'll be competing for the same talent."

WILL WE REALLY be able to place "complete reliance" on autonomous computers to perform critical functions when the stakes are high? Probably not. Almost every computer scientist I have spoken with says that DARPA grossly understates the difficulty of the project. Its proposal assumes that the goal can be achieved simply by scaling up present computers with smaller transistors, faster processors, more rules. But the scientists know that fundamental theoretical breakthroughs will also be required. Since these have proved elusive for decades, they are unlikely to appear on schedule.

There are other obstacles as well. Every one of today's large computer systems contained undiscovered flaws that revealed themselves only after the systems were placed in use. DoD has been grappling with this problem for years and has achieved some results, but a complete solution is nowhere in sight. Star Wars and the SCP will require major advances in the practice of building error-free hardware and software. The projects presume that the problem will be solved in the next few years. For DARPA, this literally goes without saying—the 90-page SCP proposal says nothing about testing, reliability, or quality assurance. Furthermore, the solution to this problem has nothing to do with such technical feats as packing more transistors on a microchip. Computer errors are as much an administrative and behavioral problem as a technical one.

There are many kinds of computer errors. Among the easiest to understand are hardware failures—the computer simply breaks. The false alerts about Soviet missile attacks in June of 1980 were traced to the failure of a silicon chip in a communications computer at the North American Aerospace Defense Command (NORAD). Also, computer operators can make mistakes. A similar alert happened in November of 1979, when a training tape containing a simulation of a Soviet attack was somehow played through NORAD's "live" warning system. Or programs may be provided with incorrect data. In a 1979 airliner tragedy incorrect routing data were entered into an Air New Zealand navigation computer. On the way to Antarctica in bad weather, the plane was twenty-seven miles off course. It crashed into Mount Erebus, and more than 200 people were killed.

But many computer errors are not so easy to understand. When the military



His family gathered around him on that chilly November morning to bid him final farewell. Papa put up a brave facade.

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began installing computers in weapons, this introduced a fundamentally new kind of problem, never encountered in simpler weapons: programming errors, or, as programmers say, "bugs."

A program's size is measured by counting the number of programming-language statements, or "lines of code," it contains. For relatively simple devices, like microcomputer-controlled video games and home appliances, the programs may be a few hundred or at most several thousand lines long. For a complex weapons system like a guided missile, the programs typically run to tens or hundreds of thousands of lines, distributed among several dissimilar devices: the launcher, the tracking radars, and the missile itself. And if the programs contain mistakes, the missile will not work.

On projects of this kind, writing the software is often the most expensive portion of the whole development effort. Almost every weapons system fielded today contains one or more computers, from microcomputers built into projectiles to large mainframes behind the lines. In 1984 DoD spent \$11 billion on embedded-computer systems. Of this, \$8.5 billion—roughly 80 percent—went for software. The effort that went into developing and testing the software for the F-18 fighter was so extensive that when changes are required, the plane is modified to fit the existing software, rather than the software to fit the plane. DoD expects that by 1990 it will spend more than \$30 billion a year, or about ten percent of the entire defense budget, for software.

DoD is proposing the most difficult programming efforts yet attempted. According to the department's own estimates, the Star Wars programs alone will comprise about ten million lines of code. DoD admits that "developing hardware will not be as difficult as developing appropriate software" but promises that the programs will "operate reliably, safely, and predictably."

In fact nobody knows how to develop such programs. As programs grow, it becomes disproportionately more difficult to ensure that they are correct. A ten-thousand-line program is much more than ten times as difficult to debug as a one-thousand-line program, because the pieces may interact in subtle ways. Further, when more programmers must be put to work for a longer time, there are additional opportunities for misunderstandings. As Alan Borning explains

about today's large programs, "Usually there is *nobody* who understands the entire system completely." In a standard programming textbook Edward Yourdon, a software-reliability expert, characterizes proposals to build programs more than a million lines long as "utterly absurd," and adds,

It is the author's opinion that our current knowledge of program design and testing concepts is not sufficient to successfully produce a system of such size. . . . In some cases, the success of the system is perhaps a moot point, e.g., an air defense system that will hopefully never be used; on the other hand . . . the consequences of a poorly tested system are rather staggering.



Bugs take many forms. Each stage in the program-development process introduces a corresponding species of error. The simplest, such as typographical slips, can have large consequences. An often repeated bit of programmers' folklore has it that the failure of the 1962 *Mariner I* probe to Venus, which had to be blown up shortly after launch, was caused by the substitution of a period for a comma in a statement in the infamous FORTRAN language. Most modern programming languages automatically check for simple mistakes in notation but can do little to prevent errors in logic that may be introduced during the design stage.

The subtlest errors occur when the programmer forgets to consider, or is totally ignorant of, certain contingencies that the program might encounter. These er-

rors are the toughest to root out, because there is no mistake to be found: the error lies in what is *not* present. They are also inevitable; programmers are no better than anyone else at foreseeing the future. One spectacular example was revealed after the sinking of the British destroyer *Sheffield* in the Falklands war. The *Sheffield's* detection equipment picked up the incoming Argentine missile and identified it as an Exocet. But the Royal Navy, which was geared to fighting the Soviet Union rather than a country operating Western weapons, had not programmed the computer to recognize the French-built Exocet as hostile.

Programming errors are uniquely insidious, because they give no overt evidence of their existence—there is nothing "broken" to discover in any sort of inspection, and the program text itself is frequently unavailable, or incomprehensible to anyone but its authors. A bug reveals itself only when some event activates the portion of the program where it lurks. Programmers try to enter code without bugs, and for some kinds of problems it is even possible to prove that a program is correct, in much the same way that theorems in geometry are proven. But in most practical situations errors can be uncovered only by testing. With very complex programs, the number of contingencies is so large that not every possibility can be tested. And however conscientious and thorough the testers may be, they cannot test a program's performance in contingencies that they cannot foresee.

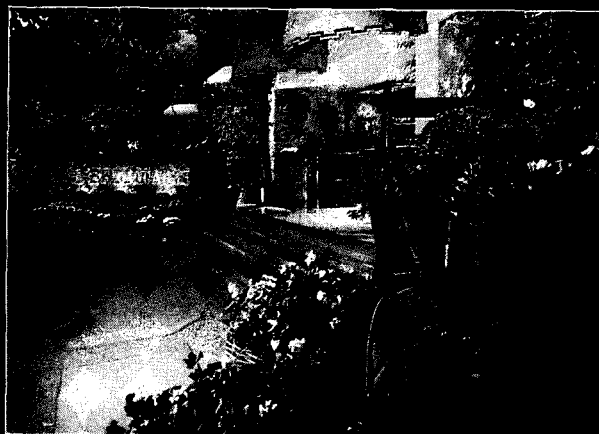
As a result, *all large programs contain undiscovered errors and omissions that come to light only after prolonged experience in actual use.* This is the single most important fact for users of complex computer systems to understand. To use a computer responsibly, one must not trust it. One must plan in advance how to detect the inevitable errors when they come up, and how to recover from them. I write computer programs that help plan radiation-therapy treatments for cancer. The programs calculate the radiation dose that a proposed treatment would deliver to each of several hundred locations in the body. For each treatment my co-workers and I also estimate the doses to a few locations by another method, using tables and a hand calculator. Discrepancies occasionally appear. Once, a team at another hospital discovered an error in a program we had been using for more than two years; the particular combination of circumstances that revealed

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it had never occurred in our department.

In the programming business the critical issue is "support." A software house provides support if it collects bug reports from its customers, fixes the problems, and distributes revised programs. Some shops circulate periodic "system dispatches" to customers, describing recently discovered bugs and recommending work-arounds and recovery procedures pending distribution of the repaired programs. This kind of work is called software maintenance. It is never-ending, because customers demand improvements to handle situations and new uses that the authors did not originally consider, and these modifications (as well as the changes that were supposed to fix earlier errors) also contain errors, and so on.

The only evidence most people have of all this activity is the inevitable billing mistakes, lost reservations, and other problems that occur when any large organization computerizes its operations. Many people assume, though, that for critical military applications programmers use an especially rigorous testing regimen that enforces a higher standard than is normally encountered in civilian life. They don't.

This disturbing truth is revealed by the occasional reports of military computing accidents that reach the press, such as the false NORAD alerts and a 1983 naval exercise in which a computer-controlled gun turret fired in the opposite direction from its intended target, toward shipping lanes. Some of the problems have consequences more serious than single incidents; they pervade an entire system and require expensive redesign. According to a story I heard among programmers in the aerospace industry in the early 1970s, a serious flaw in the Minuteman missile-guidance programs, which had somehow been discovered, required the reprogramming of missiles already in their silos. In a 1977 test of the Worldwide Military Command and Control System, attempts to send messages failed 62 percent of the time. One part of the network, the Readiness Command, broke down 85 percent of the time. Such communications breakdowns have been implicated in the capture of the USS *Pueblo* by North Korea in 1968 and in the Israeli bombing of the U.S. intelligence ship *Liberty* during the Six-Day War.

Proponents of the most farfetched weapons schemes always answer skeptics with "Well, we got to the moon, and

people said we couldn't do that either." But each space mission is accomplished with a concentration of talent, an absence of time pressure, an abundance of resources, and a secure environment—a combination that could never be replicated in combat. And even under optimal circumstances unforeseen problems appear. The first shuttle flight, in 1981, was delayed when a bug appeared only twenty minutes before the launch was to take place. It was eventually traced to a programmers' failure to understand the implications of a program fix that had been made a year earlier to correct the effects of another modification made a year before *that*. Another problem appeared during rehearsal for the second shuttle mission. The crew aborted the simulated flight; then they decided to "return to Earth" even earlier and tried to abort the abort. They couldn't. Evidently the programmers had not foreseen that anyone might want to abort the same mission twice. Even in the optimal environment of space research, some bugs are discovered only after the programs are put to use.

And what of the most critical application of all? Many people believe that already NORAD and the Strategic Air Command would make the decision to launch nuclear missiles solely on the basis of computer-generated data. They wouldn't. Or at least they didn't in 1979 and 1980, because the false alerts that occurred then were discovered and negated before any harm was done. In the words of the Senate report on the incidents, "Even though the mechanical electronic part produced erroneous information, the human part correctly evaluated it and prevented any irrevocable reaction." The skill of NORAD's human part is so highly evolved because NORAD has been working with complex computers longer than almost any other organization—since the installation of the SAGE air defense system, in the late 1950s. The staff has had to adjust and improvise to keep the system running. When DARPA proposes autonomous "battle-management systems," it is announcing its belief that we will no longer require the sort of improvisation that enabled NORAD to cancel the false alerts.

The people who design and program these systems are neither stupid nor negligent. The problems arise because the task is intrinsically difficult and the expectations for the technology are unreasonably high, given the realities of combat.

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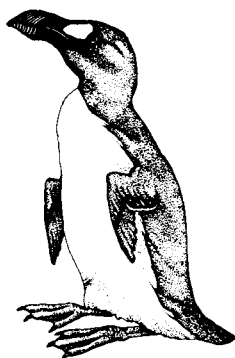
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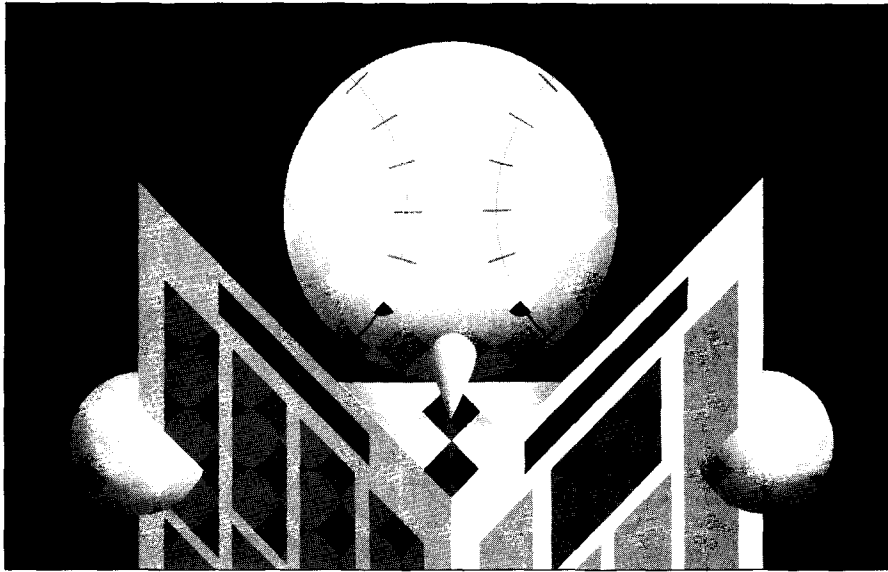
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No matter how many megabytes of memory or millions of lines of code DARPA packs into its supercomputers, the fundamental fact about computer programs will not change: it is impossible to find all the bugs by analysis and testing alone—the program must be used under actual conditions. We cannot know how well the robots work until we send them to war. No doubt there will be opportunities to try out robot tanks and other tactical weapons in some unfortunate Third World or Middle East-

ern country. As for missile defense, Ira Kalet, a University of Washington researcher in medical applications for AI, asks, "Do we understand and have experience with nuclear warfare? Do we want to gain this experience?"

—Jonathan Jacky

Jonathan Jacky is a research assistant professor in the Department of Radiation Oncology at the University of Washington School of Medicine. He is the author of numerous scholarly articles on computer science.



NOTES

A WHOLE DIFFERENT BALL GAME

"There are three things the average man thinks he can do better than anybody else: build a fire, run a hotel and manage a baseball team."

—Rocky Bridges,
manager, the San Jose Bees

NOT LONG AGO, as spring training was about to commence, I had breakfast at a fashionable Washington hotel with the energetic young owners of a local baseball franchise. They talked with refreshing candor about the season just past and the one soon to start.

"Compared with everybody else in the league, I don't think that either Brian or I was too knowledgeable about baseball," Mark London, a Washington lawyer, admitted. "I mean, we knew how to puff cigars and hang tough and

negotiate, and that's how we got Rickey Henderson. But we weren't really knowledgeable about baseball. At least not this kind."

"I think we'll smoke Churchills at the next draft," added his co-owner, Brian Kelly, a journalist who lives in Chicago. "We're just going to sit there and blow smoke, and it will drive the others crazy."

"We did come pretty close to the money, though," London continued. "The entire year we hovered around the money, and in the end we were only two RBIs away. *Two RBIs*. You know what two RBIs is? Two RBIs . . ."

"Two RBIs," Kelly interrupted, "is a single with the bases loaded in a game that gets rained out and doesn't count."

London and Kelly own the Washington, D.C., Amazons, which they acquired in 1984. Last year the Amazons finished behind five teams but ahead of six others in the Washington Ghost League. That is a respectable effort for a young ball club, but Kelly and London believe that the Amazons came closer to the pennant than the final standings suggest. They concede that their own

inexperience proved costly. Key trades fell through or were somehow sabotaged by the competition. The Amazons were plagued as well by untimely injuries. Prolonged slumps beset several ballplayers. But just as troublesome was the inherent quirkiness of the game—Rotisserie League baseball—that the twelve clubs in the Washington Ghost League play.

"We had, on paper, a team with a tremendous amount of talent," London explained. "We had Rickey Henderson, who is one of the greatest players in baseball. For seventy cents we got Andre Thornton, who had thirty-three homers and ninety-nine RBIs last year. We had Mike Easler, the Hit Man, who batted .313 and knocked in ninety-one runs. We had people like Gary Pettis, who we bought for twenty cents and, as it turned out, was the third leading base stealer in our league. For a very low price we got a guy named Gary Ward—a tremendous home-run hitter for Texas who batted .600 in the second half of the season."

"We had Aging All-Star Don Baylor," Kelly said.

"Right, we even had Aging All-Star Don Baylor. But unfortunately some of the big guys didn't do what they were supposed to do. You pay them all that money and they still don't come through for you. We bet and lost on "Clams" Castino, who is a really fine second baseman for the Twins. He cost us ninety cents, and then he hurt his back. Tim Hulett is a Chicago infielder whom we needed to fill a hole, and the Sox ended up sending him to the minors after a month. For a dollar we signed Dave Stegman, of the White Sox, who had shown some promise again, and Stegman immediately turned around and went south."

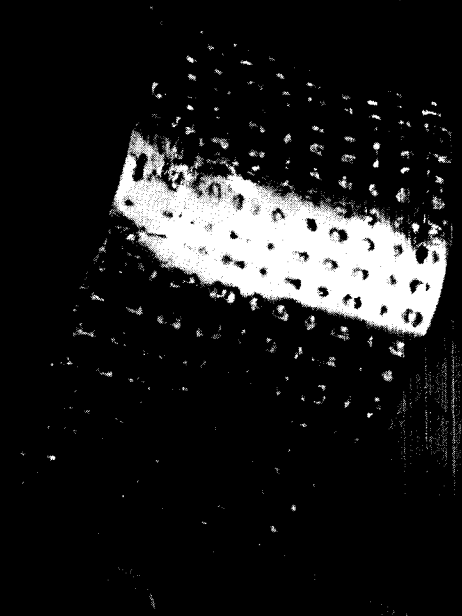
"A complete nose dive," Kelly said. "I'd seen some of the stats on Stegman during spring training, and he made a couple of appearances at the beginning of the season, looking good. I talked him over with Mark a couple of times and then, when we needed to fill another hole and I wasn't around, Mark drafted the guy as a kind of present, thinking, 'Brian's in Chicago, maybe we ought to have a Chicago guy he can watch on television.'"

"Roy Smalley was another disaster," London said.

"Smalley cost us," Kelly agreed. "Smalley hurt us badly."

"And we made some mistakes, like taking Teddy Simmons as a designated

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hitter. Simmons has those great, droopy eyes, like Dick Barnett, who used to play for the Knicks. At two dollars and thirty cents, we thought he was one of the steals of the draft. Simmons had never had a bad year, really. Sure, he'd been up and down, but never a bad year."

"Until this year."

"Yeah, until this year."

"Then there was the pitching," Kelly went on. "Mark and I came into this thing realizing that neither of us was very smart about pitchers. We ended up paying four dollars and ten cents for Floyd Bannister, and he had what for other pitchers would have been a good season—fourteen wins. For Bannister, fourteen wins was mediocre. He must have been suffering from post-pennant withdrawal, like the rest of the White Sox."

"And because we weren't real smart," London said, "we went for some established names in pitching, and most of them were over thirty-five. You know, guys like Paul Mirabella, who never made it with anyone, really, and certainly didn't make it with *our* club. And Larry Gura, who was a young 'phenom' for the Yankees, except I neglected to remind myself that I was growing up at the time."

"The problem," Kelly explained, "is that you get stuck with some of these guys. They're on your roster and you just can't get rid of them."

ROTISSERIE LEAGUE baseball is a game of statistics. The mature form of the game owes its existence chiefly to Daniel Okrent, the editor of the magazine *New England Monthly*, who describes the typical Rotisserie League franchise owner as someone who would rather think about baseball than watch it. Okrent and some friends formed the first Rotisserie League in 1980, over lunch at a Manhattan restaurant called La Rotisserie Française. Today the New York-based Rotisserie League Baseball Association (RLBA) boasts 157 affiliated leagues, in every state of the Union except the two newest ones. Sandlot versions of the game engage thousands of other teams around the country. An entertaining rulebook—*Rotisserie League Baseball*, edited by RLBA commissioner Glen Waggoner and with an introduction by Okrent—was published last year; some 30,000 copies are in print.

Like chess, the game is simple until it becomes complicated. To start a Rotis-



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Hello?

How's the Great American Novel going?

So far it reads more like the turgid insights of a lonely Albanian date-plucker.

Did I hear the word "lonely"?

There's a fog rolling in.

You're in Pawgansett, dear. It holds the world record for fog.

The "t" in my typewriter is sticking. I have seventeen cans of lentil soup. And my Paco Rabanne cologne, which I use to lure shy maidens out of the woods, is gone, all gone.

You're going to have to do better than that.

All right, I'm lonely. I miss you. I miss your cute little broken nose. I miss the sight of you in bed in the morning, all pink and pearly and surly.

And you want me to catch the train up.

Hurry! This thing they call love is about to burst the bounds of decency. And, darling...

Yes?

Bring a bottle of Paco Rabanne, would you? The maidens are getting restless.

Swine!



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serie baseball league, round up a group of fellow owners--nine others if you wish to use National League players, eleven if, like Kelly and London, you prefer the American League. The next step is to conduct an auction--ideally in April, on the first weekend after Opening Day, though provisions exist for starting much later. It will take about a day and put friendships to the test. Limit the amount each owner can spend for all the players on his team to a specified sum--\$260 is suggested by the RLBA. (The frugal owners in Washington play with \$26 apiece, but the ceiling in at least one league is rumored to be \$2,600.) Then start the bidding. Pay no attention to the guy smoking Churchills or you will lose Rickey Henderson. Proceed with the auction until each owner has filled a twenty-three-man active roster. Because Rotisserie leagues play with two fewer teams than their major-league counterparts, and with two fewer players on their rosters, many active major-league athletes will go unchosen in the draft. They constitute a free-agent pool from which owners can draw talent throughout the season. At season's end the receipts from the April draft, along with league levies on trades and other transactions, will be distributed--unevenly--among the owners of the four teams at the top of the standings. The league champion gets half the pot.

Rotisserie League standings are based on team statistics, which are based in turn on the performance (as reported weekly in the tabloid *The Sporting News*) of the major-league players on each roster. This is the point at which the actual and the mythical--reality and Rotisserie--converge. If in real life Rickey Henderson steals a base for the Oakland A's, his Rotisserie League counterpart steals one for the Amazons. If Boston's Bobby Ojeda is relieved with two men on base and the relief pitcher gives up a home run, Bobby Ojeda of the Amazons as well as the other Bobby Ojeda gets charged with two earned runs. If Milwaukee's Bill Schroeder is bumped from the starting lineup because the first-string catcher, Jim Sundberg, has come off injured reserve, the Amazons' Bill Schroeder is bumped too, and he makes no contribution, statistically, to the team.

Game after game, from April into October, the statistics are tallied. There are eight categories: total number of team home runs, total runs batted in, total stolen bases, composite team batting aver-

age, total number of team wins, total saves, composite earned-run average, and team pitching "ratio." (The ratio is computed by dividing the total number of walks and hits a team gives up by the total number of innings pitched.) Compiling weekly league standings is a chore, even with a computer. For a fee, each league in the RLBA may avail itself of the association's statistical service.

"Basically, Rotisserie League gives you a completely new perspective on real baseball," Kelly told me at our breakfast.

"In one way," London added, "real baseball doesn't even exist. There were times last year when I knew the statistics of nearly every player in the American League but had no idea what the actual standings were."

"For us," Kelly said, "an inconsequential game in the majors can be of consuming interest. Last September how many people were holding their breath whenever Cleveland played Chicago? Well, we were. We had four Indians and two White Sox on our team. When you see one of your guys, like George Vukovich, coming up to bat against another of your guys, like Floyd Bannister, you have to wonder, What do we want to have happen here? Do we want a home run or a strikeout? Do we want more RBIs or a better ERA?"

"We learned a lot from our first year," London said. "I'm reluctant to let out all our secrets, but what the hell. We've discovered that, statistically, starting pitching is the most overrated commodity in the league. The way this game is skewed, stolen bases are disproportionately important. So are home runs. So are saves. Thanks to Amazons Rickey Henderson and Gary Pettis, who between them had 114 stolen bases, we led the league in that category in 1984. We finished second in home runs. But we were seventh in saves, and we would have been *ninth* except for Ernie Camacho, whom we got in a midseason trade. That's why relief pitching is a priority for us. So one thing we have to do this year is put together the nucleus of a good pitching staff. Another thing is, we have to get more players who are regular starters. In this game a guy who hits .300 but has only fifty 'at bats' is not all that helpful. His average may be high, but his seasonal output of home runs and RBIs is pretty low."

"You always have to remember," London went on, "that while this game depends on what actually happens in ma-

ajor-league baseball, the game itself is still Rotisserie League baseball. The dynamics are different. So you've got to develop a Rotisserie baseball *mind*. In Rotisserie ball you don't care about the guy's leadership qualities or his sense of humor or his fielding percentages."

"You don't care," Kelly said, "how avidly an outfielder attacks the wall, except insofar as he may hurt himself doing it and you may have to replace him in the lineup."

"And as far as pitching goes," London continued, "Rotisserie baseball is a whole different ball game. You've got to worry about the all-important question of ratio, which is a pretty obscure statistic."

Ratio is a handy gauge of a team's defensive capabilities. If a team's ratio is 1.3081, as the Hamilton Burghers' was in Washington in 1984, then that means the team allowed an average of only 1.3081 walks and hits per inning, which is not bad. (The ratio of the world-champion Detroit Tigers last year was 1.26.) The Burghers, led by Bill Hamilton, a financial writer for *The Washington Post*, had the best ratio in the Ghost League; when the final stats were compiled, the club was awarded twelve points for its performance in that category. The Matadors, owned by Matt Potts, of New York City, who does market research for *Business Week*, received eleven points for having the second-best ratio (1.3105). Kelly and London's Amazons had the worst ratio of all twelve teams (1.4263) and garnered only one point.

Points are allotted, on the same descending scale, for home runs, RBIs, stolen bases, composite ERA, saves, and the other indices. The team with the most points overall becomes the league champion. Henry's Youngmen, managed with nervous élan by Neil Henry, claimed that honor last year in Washington, with eighty-one points. Ben Weiser's Owls were firmly in second place with sixty and a half points. The Amazons finished with fifty-three points, a mere half point behind the Burghers and within two points of both the Tom Toms, owned by Tom Lippman, and the Silver Spring Chickens, owned by Dave Maraniss and his thirteen-year-old son, Andy. Gildea's Diners, led by Bill Gildea, owned the basement with a scant thirty-four and a half points. Gildea has turned his franchise over to Mike Weisskopf, a *Post* correspondent recently returned from China. (Gildea, Maraniss, Lippman, Weiser,

and Henry also work for the *Post*, in whose newsroom the Washington Ghost League was founded, in 1984.)

WERE THE LAST-PLACE Diners—now the Peking Ducks—just plain unlucky? Rotisserie baseball is, without question, a game of chance. Much lies beyond anyone's control. But the owners are by no means passive spectators. To begin with, they are responsible for their choices in the draft. Signing up a team takes special skill, because there are never enough great athletes to go around. Every owner must seek to build "depth" in his team, partly by picking the right mix of average players. What's more, luck is something that can be prepared for, even invited. In a bold stroke last year Neil Henry paid ten cents in the draft for Kansas City's Willie Wilson, who had been in jail on a drug conviction and was still under major-league suspension. He could have been out for the season. But no, the suspension was lifted in May, and Wilson went on to hit .301 and steal forty-seven bases, leading Henry's Youngmen to the pennant. All for a dime.

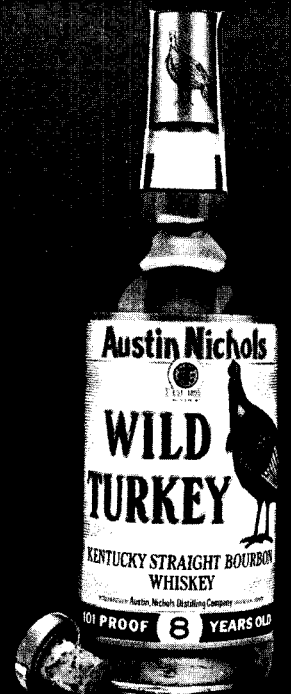
Once the twenty-three-man roster is selected, moreover, the owners do not just sit on the bench and chew tobacco and wait for October. On certain occasions and in several ways, and almost always in return for small fees paid into the pot, the owners can influence the season's outcome. Until noon on the Friday following June 15—the actual major-league trading deadline—the owners may consummate trades with other ball clubs. To back up their active rosters they may set up a small farm system consisting of minor-league players selected in a separate Rotisserie League draft. If one of those minor leaguers is promoted to the majors, his Rotisserie League duplicate is eligible to take the field. In stipulated circumstances owners may place an athlete on waivers or release him outright. All of these moves will, of course, influence the final standings.

Keeping abreast of developments in the major leagues is paramount. If a real-life ballplayer is sent down to the minors, placed on the disabled list, or traded to the other league, then the same happens to that player's Rotisserie League equivalent, and he vanishes from the lineup. His "salary"—the amount paid for him at auction—is credited to the owner. Rotisserie League teams lose players continually. Those players have to be replaced, sometimes



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from the farm system, more often from the free-agent pool. Because there are strict rules about how many of which kind of ballplayer must play for each club—there can be only one second baseman, for example, and there have to be two catchers, five outfielders, and nine pitchers—a club's options are often limited. The owners must be on their toes, alert to possible pitfalls and opportunities, ready to scramble for the best players available.

They do so with a consuming intensity. Owners pore over the daily team reports in *USA Today*. They harass or cajole one another by post and telephone. They make deals. They posture. Exquisitely sensitized, they can detect the merest whiff of a trade. If a rumored transaction between others in the league is not to an owner's liking, he may try to interfere—to dissuade one of the parties or counter with a deal of his own. During the off-season, owners take a hard look at their lineups. Some use computers to swill the data, test hypotheses, and speculate about what might have been.

For example, what if the Scrubbers' owner, Mark Potts—Matt's brother, a *Post* financial reporter and the Ghost League statistician—had not traded ace pitcher Dave Steib, over the vocal objections of everyone, to Ben Weiser's Owls? The Potts Scrubbers, it seems, would have finished in third place and the Weiser Owls in tenth, instead of the Owls in second and the Scrubbers in eleventh. In Rotisserie baseball one player can make all the difference. That is why, when spring training begins, Ghost League owners try to get to Florida or Arizona to check up on their boys. Has Roy Smalley gotten his weight down? How is Don Aase's elbow this year? Did the rookie first baseman Fred McGriff, already six-foot-three, really grow another inch during the off-season? Such information can prove vital.

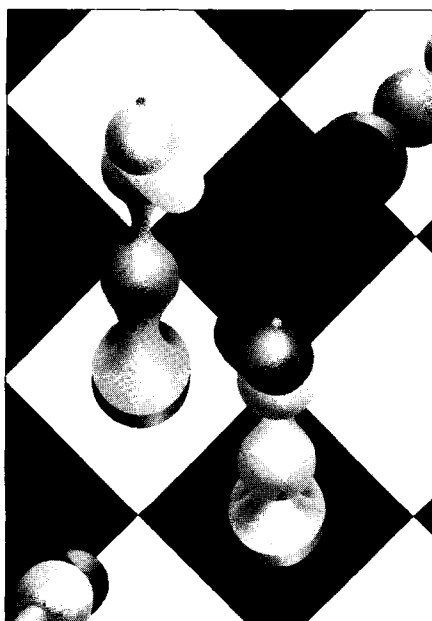
"Eternal vigilance is the key," according to Kelly, who monitors ball games via short-wave radio and calls Sports-Phone about seven times a day. "You've just got to be on top of this stuff. A couple of days can sometimes make a real difference."

"For example," London told me, "our first pick in the minor-league draft in 1984 was Roger Clemens, who's this fabulous pitcher the Red Sox had on their number-one farm team. Our mistake was, when Boston brought him up from Pawtucket we activated him right

away. The guy was a rookie. We should have put him on the roster but kept him in our farm system for a few weeks, let the real Clemens get used to pitching in the big leagues. As it was, Clemens had a rocky outing at the beginning of the season and it hurt our composite ERA. If only we'd waited a week."

"In the end our ERA was off by only .002," Kelly said. "If it had been .002 lower we would have jumped up a notch and been in the money."

"Another mistake was, after September 1 you're allowed to expand your roster by one player," London said. "And we asked another owner if he thought we should call someone up. He said, Nah, it wasn't that important. And we listened to him. Well, if we had called



someone up we probably would have gotten two more RBIs. Two more RBIs and we would have moved up a point there and been in fourth place overall and in the money. You know what two RBIs is? Two RBIs . . ."

"Two RBIs," Kelly said, "is a guy who could have gotten hit in the helmet, you know, with the bases loaded, and the ball goes away. And we would have been up there."

"There were trades that went sour too," London said. "We had one deal where in return for Willie Hernandez and Pete O'Brien, the Youngmen were going to get Barbaro Garbey and a starting pitcher of Neil Henry's choice—maybe Steve McCatty, maybe Tommy John, maybe Larry Gura. And Neil Henry said, 'Okay, let me sleep on it.' And somebody got to him."

"You can always detect the hand of Weiser."

"Let's just say somebody," London said.

"Somebody," Kelly agreed. "But we would have won the pennant."

"Yeah, with Hernandez we would have won the pennant."

THE AMAZONS' OWNERS were not idle during the off-season. Rotisserie League teams are allowed to keep only fifteen players from one season to the next. Kelly and London retained even fewer, pruning deadwood and overpriced talent. Half of the pitching staff was either cut or traded; the hurlers who remained—Clemens, Juan Berenguer, Camacho, Aase, and Ojeda—represented a seemingly solid core. Teddy Simmons, Tim Hulett, Rob Wilfong, and Mike Hargrove, disappointments at the plate, were all let go, and Dave Stegman was sent down to the minors. (Shortstop Roy Smalley, after a poor showing in 1984, won a reprieve because he lost nine pounds, went to speed school, and was traded back to Minnesota, where he can play in a hitters' ballpark.) Kelly and London also made two key off-season trades, adding Yankee catcher Butch Wynegar (.267 at the plate last year) and pitcher Jack Morris, a nineteen-game winner for Detroit. On the eve of the 1985 draft the Amazons were still in need of some middling, one-dimensional talent: a couple of decent relief pitchers; one more guy who could get from first to second before the throw from the plate; a fellow who could hit the ball into the stands from time to time.

Off-season adjustments in the major leagues, meanwhile, generally favored the Amazons. Rickey Henderson was traded by Oakland but remained in the American League and therefore on the Amazons' roster. Owing to trades and injuries, more of the Amazons' better offensive players are on the starting lineups in their real-life clubs, promising gains in the home-run and RBI columns. With Detroit's third baseman Howard Johnson gone to the Mets, his former teammate Barbaro Garbey may see more playing time for Detroit—and thus for the Amazons, as well. Amazon Bill Schroeder was set to be starting catcher for the Brewers (replacing Jim Sundberg, who was traded to the Royals). There were some breaks in the bullpen and on the mound, too. For example, because Oriole Tippy Martinez had arm trouble, Don Aase (with seven saves last

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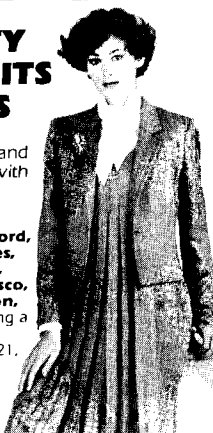
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year during a brief, late-season stint as an Amazon) emerged as the Birds' chief relief pitcher. And an operation on Milt Wilcox's arm put Amazon Juan Berenguer in Detroit's starting rotation, at least temporarily.

All in all, the owners of the Amazons were optimistic about 1985 the morning we met.

"We're in the money," London predicted. "There's no doubt. All we need is for people to hold true to form. And, you know, players don't vary that much from the year before."

"Except for everybody on our team last year," Kelly said.

"Well, that's true," London conceded. "It's an ironbound rule, except for everybody on our team last year."

"But we're feeling very strong."

"Yeah, we are."

That assessment was not unanimous in the Washington Ghost League when spring training got under way. The Scrubbers' owner, Mark Potts, in a team-by-team analysis circulated among club owners, had this to say about the Amazons' 1985 prospects: "Shudder. Strictly a rebuilding situation. . . . It is said around the League that the best thing they could do is emulate the Oakland A's and trade Rickey Henderson for a bunch of cheap talent to fill some of the holes." This the Amazons will never do.

Other owners offered these insights. Neil Henry, the owner of the league-champion Youngmen, said: "The Amazons have a good team, but they need relief pitchers, which means they have to deal with me, because I've got five strong relievers. But so far I haven't heard from them." Ben Weiser, the owner of last year's number-two club, said: "I keep hearing Kelly and London say they're going to be in the money. The only thing they're going to be in is debt. If the Amazons play as consistently as they have been managed, then I'm not worried." Dave Maraniss, the co-owner of the number-three team in 1984, said: "The Amazons have good balance, good starters, and good power, and they've got some speed, but they won't win the pennant. I think of London, in particular, as the evil empire. In this league, only nice guys win the pennant."

London said: "The way I heard it, nice guys finish last."

—Cullen Murphy

Cullen Murphy has contributed a number of articles to The Atlantic. The most recent was "Earth Cookie," in the April issue.

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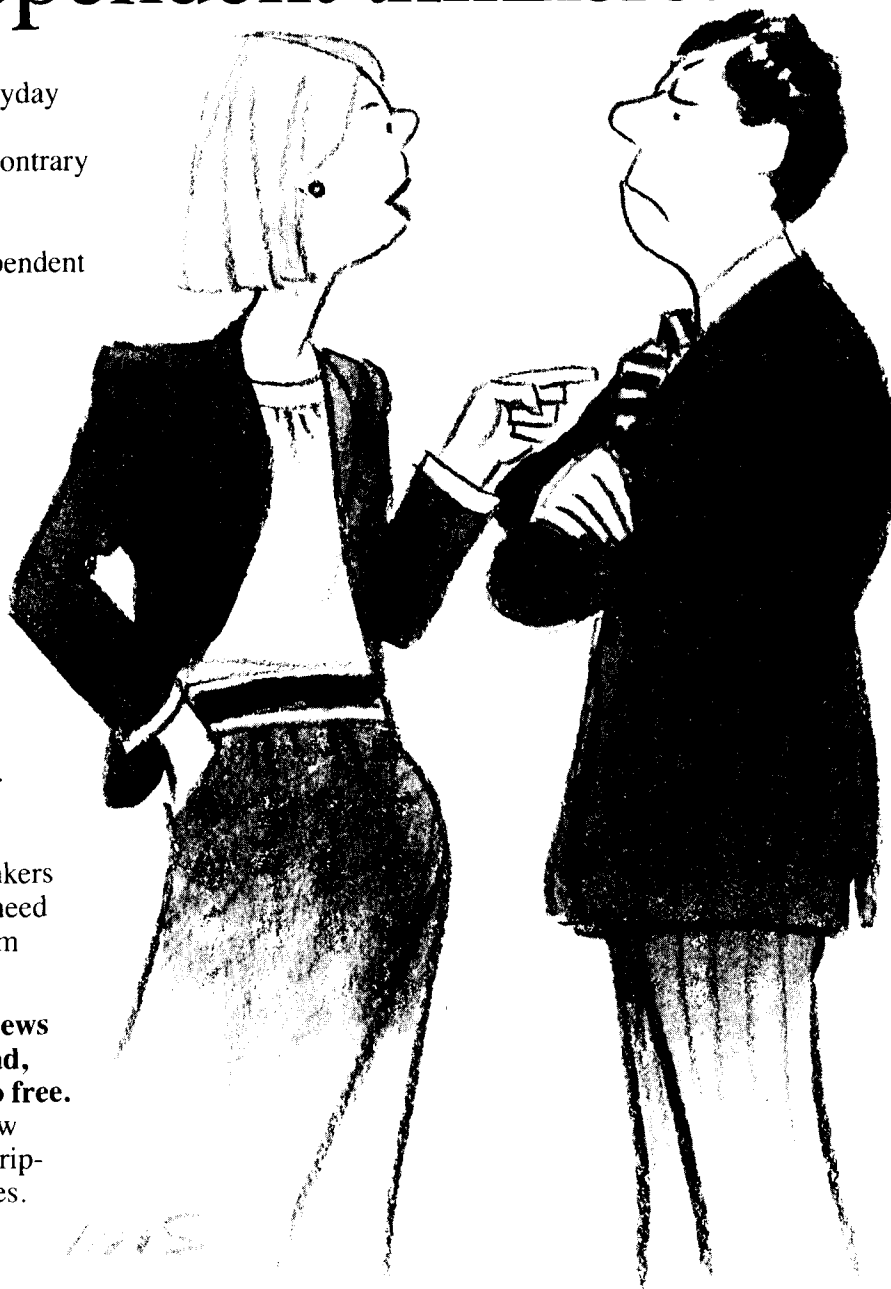
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AS WELL AS I DO MY OWN

BY ROY BLOUNT, JR.

WHEN SOMEONE TAKES too authoritative a tone with my friend Slick Lawson, the Nashville photographer, he will say, "Well, I go along with what Donald Wilson Breland said about that."

Then he will proceed to snap pictures. After a few moments the person who has taken too authoritative a tone will say, "Well . . . I don't *know* Breland. Of course I know his *work*. . . ."

Then Slick will go on to mention that Donald Wilson Breland was a kid who sat in front of him in the fourth grade and ate paste. And what Donald Wilson Breland said, about everything, was "Whutcha wawnt me t'do uhbout it?"

Someone is going to catch me out like that someday. And only because I am trying to be gracious.

At my twenty-fifth high school reunion, last year, you would have been proud of me. The way I called those names up, with seldom even a quick half glance at a tag, you would have thought they were Ajax, Salome, Mrs. Miniver, and Jackie Robinson. I hadn't seen Steve Fladger or Mickey Wallis in a quarter of a century, and they were the only two returning members of the class whose bone structure had changed (late height spurts) since graduation. But their names came to me like the list of vowels, because I had learned them when I was fresh, back before I had met or heard of 375,000 other Americans. By the time anyone gets to be forty-three, if he has followed current events and been out of town a few times, two thirds of the names he hears sound vaguely, but only vaguely, familiar.

People ask me, "Do you know Mason Swint?"

And I am not sure whether:

(a) I certainly do.

(b) I don't personally, but I do know of him, because he is the one who just won an Emmy or Oscar or Grammy or Tony or Obie or Golden Globe or Golden

Gloves or Olympic gold or Nobel or National Book Award or that other thing that's like the National Book Award or one of the three or four world junior light-heavyweight championships.

(c) I don't personally, but I do know of him, because he is that petting-zoo operator who was charged with lambkin, piglet, and duckling abuse.

(d) I am thinking of Morgan Swift, Morris Wilt, Milton Sweet, Marion Sweat, Morton Swing, Martin Short, or Myron Smart, some of whom I am sure I

ian musical term *con dolce*, which means 'with sweetness.' Ah.

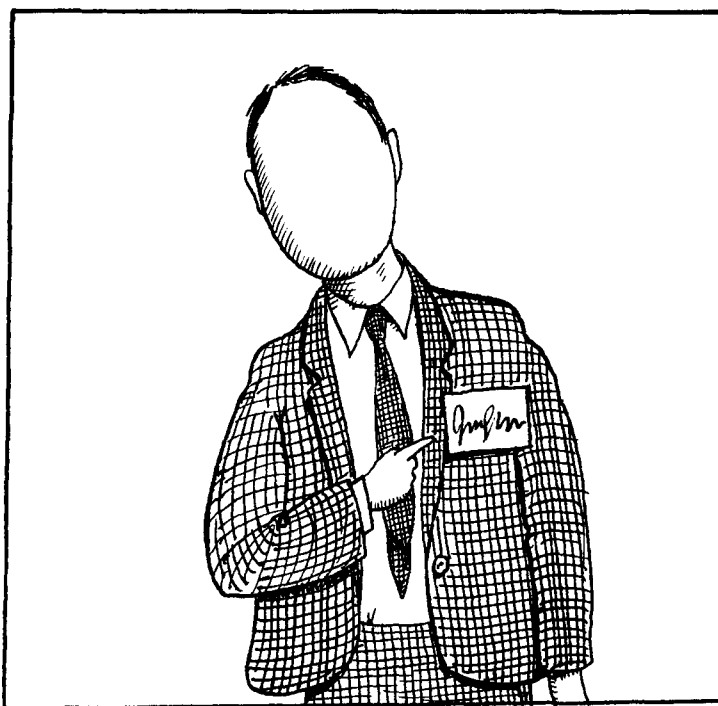
Does Condoleezza rhyme with Louisa, pizza, mezza? In this country names can ring a range of bells. My friend Walter Iooss, the Flemish-American sports photographer, pronounces his name like "Yost" only with another *s* in place of the *z*. When Iooss took his marital vows, he did not say "I do." He said what New York Knicks announcer Marv Albert says when a Knick hits a shot: "Yesss!" Iooss and I once rode in a Chicago cab driven by Rosetta Shinboom.

Cabdrivers, as a class, have the most noteworthy names in America. There was one in the *New York Daily News* the other day named Just Ackah. And yet they are quite often quoted anonymously. This strikes me as fishy. The way I look at journalistic ethics, license to cite a cogent cabdriver should not be extended to anyone who cannot also make up a credible name:

"Well," observed U Gonxha, the Burmese-Albanian hackie who drove me in from the airport, "what most folks around here are saying is. . . ."

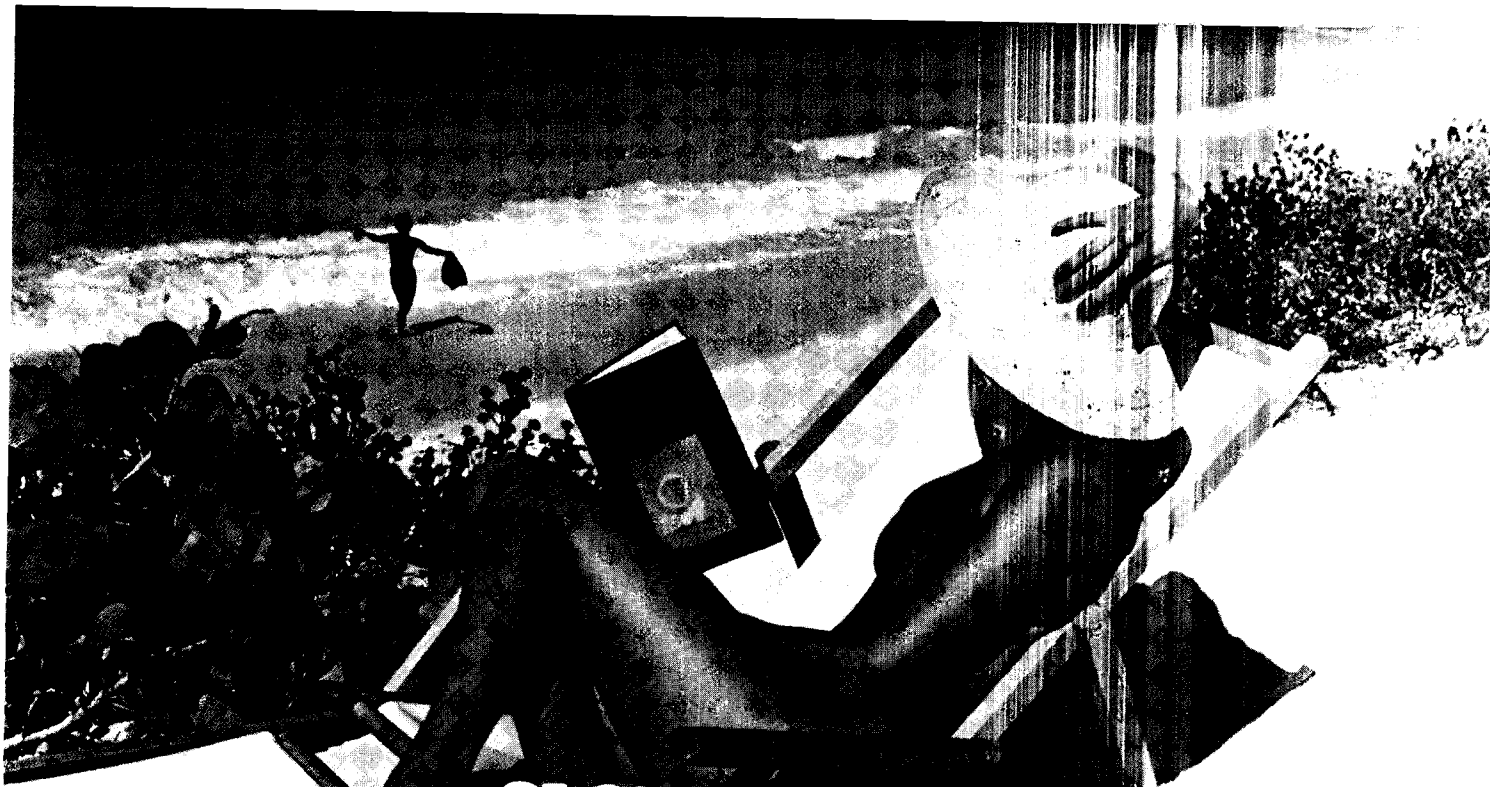
Most folks are not cabdrivers. But when I was younger I could remember their names anyway. One weekend in Pittsburgh I must have introduced my wife to two hundred people, flawlessly except for a set of twins. (With twins I have always tried too hard. I get them down pat, and then I look at one or the other, and it's not as though I don't know which one it is, but I think, "Pat. Is this the one I am determined to remember is Pat, or isn't Pat?") That was ten years ago. Now names come to me like dreams: at first so vivid (*Oh, I'll have no trouble holding on to this!*) and then gone.

FAULT NOT ONLY my age, which is advancing, but also the one we live in, which isn't. Names today are like dollars: there are far more of them than

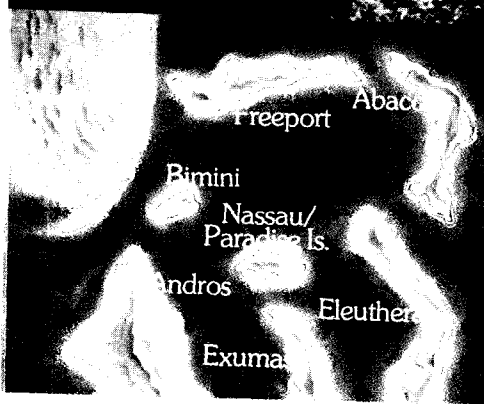


do know, or know of, and some of whom I believe I do, unless I am thinking of Mason Swint.

I should cut down on my name intake. But I don't want anyone to think that I don't know who's who in my field. And I don't know what my field is. Furthermore, I love names too much, for their own sake. How can I close my eyes to the fact that Stanford University has professors named Condoleezza Rice, an arms-control specialist, and Jon Roughgarden, an ecologist? All those *z*'s and *g*'s, on one faculty! Roughgarden should be a common term, like roughhouse or rough fish. Condoleezza Rice, according to the *Stanford Observer*, is from Birmingham, Alabama, and "her unusual name of Condoleezza is derived from the Ital-



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there used to be, and they amount to less. Baseball players should all be mythical. But today there must be, among the Minnesota Twins alone, four or five semi-phenoms who have moved right on into budding sort-of-stardom without ever quite registering. There is a Puckett—or am I flashing back to Howie Pollet or Duane Pilette or General Pickett? And there is a Teufel. If you held a knife to my throat, I couldn't tell you whether Teufel is pronounced as in

*Teufel, Teufel,
We adore thee*

or to rhyme with *rueful*. I just don't know. I don't know whether I ever will know.

But I can live with that. What bothers me is finding myself face-to-face with an actual human being who looks familiar and who seems to know me (and why would he lie?) but whose name I am afraid I will not be able to dredge up until sometime next week, if then. Recently I spoke with my old college friend Lamar Alexander, who is now the governor of Tennessee. (Which means that I can name one American governor. Didn't governors use to be more vivid?) I asked him how he managed to remember all the people he must shake hands with. His answer was he didn't. He said that when somebody comes up to him with a certain sly grin and says, "I bet you don't remember my name," he often replies, "No, I bet I don't."

Why can't I do that? Why must I bluff and flounder? Why in the name of all that is holy do I say things like, "Oh! Hi! Great to see you again, ah, Hmblmbl"? What possesses me to plunge into "Well! If it isn't . . ." at the same time that I am thinking, *What if, in fact, it's not?*

It is time for me to face up to the fact that I can no longer place implicit trust in the tip of my tongue. I can no longer assume that I *virtually* remember the name in question and that if I just plunge forward with an honest heart . . . After your mind reaches saturation, an honest heart can't carry it.

Not long ago I was autographing books in a city where I had worked some years before. No matter how bad your handwriting, you can't fake an inscription: "For Mmmnnnn—those were the days!" And if you say, "For the life of me, I can't remember the *spelling* . . .," then the answer will be:

"C-U-N . . ."

"Right, right . . ."

" . . . N-I-N . . ."

"Oh, yeah, uh . . ."

" . . . G . . . H . . ."

"Ohhh, sure, . . . uh . . ."

" . . . A . . ."

"Oh! No! Of course! I don't mean the *Cunningham* part! I mean your *first* . . ."

"J-I-M."

So I was delighted to see none other than old Greer Chastain (not his real name) in front of me. "Hey, Greer!" I sang out.

"This is old Greer Chastain," I informed the bookstore's proprietor. "Hell of a fisherman. Used to come into the office with a string that long of bass and bream and crappies and . . ."

"Shea Whislet," Greer said.

"What say, Greer?" I said.

"I'm Shea Whislet," he said. (Not his real name.)

"Oh," I said. "I . . . What's wrong with me! Thing is, I guess because you used to hang around so much with Greer Chastain, and . . ."

"Noo," he said, frowning.

"That's right! That's right! I don't know what made me . . . *Nobody* used to hang around with Greer Chastain! *Nobody* even *liked* Greer Chastain! He stuck in my mind I guess because he was *so* unmemorable. Here, Shea, let me . . ."

Even though I made a point of not having to ask him how to spell *Shea*, our grins were forced when he moved away and the next person came forward.

"I'm Greer Chastain," he said.

THE OTHER DAY I was playing tennis with my friend Lois Betts when a mutual acquaintance stopped by with his dog. I was almost entirely sure that this man was the one I thought he was, whose name I had heard many times, with whom I had chatted several times, and to whom I had often said, "Hi, how you doing?" I felt that if I strained for about five minutes I would know his name from Adam.

Furthermore, I felt that I would be able to stall for five minutes by focusing on the dog, whom I heard Lois call Bob. Unfortunately I am unable to focus *casually* on something I am not actually focusing on in my mind.

"Bob? Hey, that's a good name for a big old orange dog," I said, tousling Bob's ears. "What caused you to name him Bob?"

"No . . . , it's Hobbit, actually," said the man.

"Oh," I said heartily. "Thought Lois said Bob. Well, you're a fine dog, Hob-

bit. Yes, sir. Never knew a dog named Hobbit."

Meanwhile, I was thinking: *Don't babble. Concentrate. Wait a minute, it's coming. Is it . . . ? No, no it probably isn't. Don't blurt it out! It probably isn't!*

"I had a dog named Bob when I was a kid," I went on. "Because of his tail. And then, too, I had read *Bob, Son of Battle*. You know, that book by . . . Oh, you know. What's his name? I *know* his name, it's . . ."

Meanwhile, I was thinking: *Drop it. You've got enough to worry about. This man's name. Concentrate.*

"Old Bob, yep. I guess whenever I think of dogs, Bob's name comes to mind. He was my favorite dog."

Meanwhile, I was thinking: *He was not! You're lying about who your favorite dog was! Bob was no-account! Used to get lost all the time! Chipper was your favorite, and you know it! Somewhere in dog heaven, Bob is probably saying, "Hey, he never seemed to think I was all that great a dog when I was alive. Truth is, I wasn't all that great a dog. I was always getting lost. He knows that. I never realized he was so shallow."*

After perhaps four and a half minutes, Hobbit and the man trotted off. I gazed after them, relieved and yet vexed.

"Lois," I said, "what is . . ."

"Now *that*," said Lois, "was *awful*."

"Well," I said, "I was trying . . ."

"The *guy's* name is Bob," she said.

I could, I guess, call all men Colonel or Big Fella. That doesn't address the problem of what to call women. Sister? I don't think it would go over.

For that matter, you have to be a certain kind of person to carry off calling people Colonel or Big Fella. You have to be a person on the order of Babe Ruth, who never made any pretense of remembering anyone's name, even long-time teammates'. Ruth called everyone Jidge, a sort of affectionym for George, which was Ruth's real first name. I believe that Bobo Newsom, the old pitcher, called everyone Bobo. Or maybe it was Bobo Olson, the old fighter. I don't think I want to call everyone Roy.

I am reminded, however, that Byron Sahm, the Philadelphia Phillies' announcer, is said to have opened his broadcast once by exclaiming, "*Hello, Byron Sahm! This is everybody!*"

If only one were, in fact, everyone else. Then the burden would be on them. □

Roy Blount, Jr., is the author of *One Fell Soup* and *What Men Don't Tell Women*.

War and Peace

This year marks the 40th anniversary of the end of World War II. Allied victory in Europe—V-E day—came in May of 1945. V-J day—victory in Japan—followed in August.

Ultimately, the end of the war proved to be not only a victory for the Allies but also, ironically, for Germany and Japan. For the end of war liberated both countries from the yoke of totalitarianism, paving the way for the emergence and growth of democratic government from which they derive their present freedoms.

In this anniversary it's important to recall those epochal events of four decades ago. But it's even more worthwhile to remember the reconciliation that has taken place since then. The successor states to the German Reich and Imperial Japan are not America's foes. They have become our trusted friends. We once fought each other, head to head. Now we proudly stand together with them, side by side, in close friendship.

Unfortunately, the end of that war did not mark the end of war. Peace has been fragile. Throughout the world, there have been more than 100 wars since 1945.

There's an important lesson to be learned from this. And the 40th anniversary of the end of World War II, is an appropriate time to recall it.

It is a paradox of life that the better prepared a country is to fight a war, the less likely that country will be attacked. Countries maintain military power not only to triumph if war breaks out, but also to deter conflict from ever happening in the first place.

This is hardly a new idea. The Athenian historian Thucydides observed in the 4th century, B.C., that when one side's strength is comparable to another's, their mutual strength is a deterrent to war.

Countries generally do not start wars because other countries are strong. Countries tend to start wars because they believe other countries are weak—either in arms or in a willingness to fight. Such countries resort to force because they believe they have more to gain from war than from peace.

Addressing a joint session of Congress in February, Margaret Thatcher put it this way: "The war of 1939 was not caused by an arms race. It sprang from a tyrant's belief that other countries lacked the means and the will to resist him."

Armaments do not cause wars. Ambitions do...ambitions unchecked by compassion, unmoved by wise counsel, ignorant of consequences, encouraged by an aggressive spirit, and tempted by easy victory.

It's a lesson we can never learn too well.



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*The back-yard earth-station movement
has expanded beyond its early base of ham-radio
operators and electronics tinkerers to include people in remote areas for
whom good reception is the goal and suburban families who just want to watch a lot of TV*

SATELLITE TELEVISION

BY DAVID OWEN

"**S** PAGE IS UPON US—THE AGE OF SPACE," DAVID O. Woodbury wrote in 1958. Making up words and getting people to use them is harder than many people believe. For every *Koreagate* or *maxiskirt* that dances on the tongues of Americans, there are dozens if not millions of neologisms that no one ever uses.

A disproportionate number of these unused words seem to have been coined by Woodbury. *Polycorn*. *Astrogration*. *Rockoon*. *Plorb*. He used them in a book about the coming age of satellites. "Plorb is short for 'Placing artificial moons in orbits,'" he explained. "An inelegant word, perhaps, with a certain similarity to 'Plop!,' which many pessimistic people fear is exactly what the satellite is going to do." Just

before the book went to press, the Soviets launched the earth's first artificial satellite, and Woodbury discovered with bitter indignation that his entire manuscript was in the wrong tense. Describing himself as "a victim of Russian propaganda," he hastily composed a second preface, in which he referred to *Sputnik* as "little," "fat," and "this unwelcome surprise" and suggested that the pioneering Soviet space vehicle be renamed *Propnik*, as it has not been called ever since.

A few chapters later Woodbury fixed his gaze on the distant future. As many as thirty years might pass, he speculated, before it would be possible to crash a small satellite into the moon "and perhaps send back a flash of light." Nonetheless, he believed that space travel was just around the corner. "People who are teen-agers now will no doubt live to take space weekends, say at some Martian beach," he declared. As to more-workaday uses to which space

David Owen's book about the Educational Testing Service, None of the Above: Behind the Myth of Scholastic Aptitude, has just been published.

might be put, Woodbury was skeptical. He noted that a few ambitious visionaries had suggested using satellites to transmit television signals, but he doubted that this would come to pass. He wrote, "It is difficult to see how television, as we know it at present, could justify such unrelenting saturation as this might bring about, or the cost."

Today scientists understand that Woodbury was completely wrong about everything. They are quite certain not only that the teenagers of 1957 will never vacation on Martian beaches but also that there *are* no Martian beaches. The true practical value of space has turned out to include precisely the sort of telecommunication that Woodbury thought was more outlandish than holiday jaunts around the solar system.

The transmission of television and other signals by satellite has become a technological commonplace. Communications satellites now ring the globe. They have made possible improved navigation and flight control, worldwide high-speed data transmission, business teleconferencing, and increased telephone service. (The annoying little delay in most international and many domestic phone calls is the time it takes a microwave, traveling at the speed of light, to zip back and forth between Earth and a satellite.) They have also brought about the rapid expansion of cable television, the wild proliferation of new programming, and in the past four or five years a brand-new industry aimed at enabling people to receive satellite signals in their homes. Perhaps a million Americans own satellite antennas of varying shapes and sizes. They use them to receive as many as a hundred different television channels bearing everything from X-rated movies to unedited network news stories to Russian weather reports to talk shows whose hosts are nuns.

Ten years ago no regular American television programming was transmitted by satellite. Today almost every viewer, whether or not he owns a satellite antenna, watches shows that have spent at least part of their lives bouncing through outer space. The significance of this change is not obvious to most people. Few of us care very much how *Dynasty* gets to our living rooms so long as it gets there intact and on time. Nonetheless, the satellite-television revolution, just now getting under way, has the potential to transform the world. It may one day come to be viewed as a more portentous development than the invention of television itself.

VASTLY MORE PRESCIENT THAN DAVID O. WOODBURY was Arthur C. Clarke, the famous science-fiction writer. Whereas most science-fiction writers spend their time predicting, say, the discovery of planets ruled by angry, invisible dogs, Clarke has largely confined himself to predicting things that actually come to pass. In 1945, for example—writing in an obscure British publication called *Wireless World*—he laid out the blueprint for the modern system of transmitting television signals by satellite.

Clarke's proposal was prompted in part by the inability of television signals to pass through the ground or bend around the earth. TV stations perch their transmitting antennas on towers, mountains, and skyscrapers in order to increase their broadcast area, but even with such a boost their range seldom exceeds fifty miles. One way to overcome this limitation, Clarke wrote, would be to place TV antennas in space. A satellite circling the earth a hundred miles above the ground—the lowest feasible orbit—would have an enormous broadcast range.

Once in orbit at this altitude, however, a satellite would take only ninety minutes to circle the globe, and that would greatly limit its usefulness as a transmitting station. Television shows would fade in and out as the satellite zoomed past, and viewers would have to adjust their receiving antennas constantly in order to keep them trained on the drifting signal. Clarke pointed out that at a much higher altitude—22,300 miles—a satellite's orbital period would be twenty-four hours, which is of course the same time that it takes the earth to turn on its axis. A satellite orbiting at this height directly above the equator would seem to hang motionless in the sky. Its signal could be received with a fixed antenna.

Satellites in this 22,300-mile orbit (now called the Clarke Belt) are often referred to as geosynchronous or geostationary. Clarke suggested launching three of them such that they would be evenly spaced above the equator. By using them to relay signals between stations on the ground, he wrote, it would be possible to send information almost instantaneously from almost anywhere to almost anywhere else.

The first communications satellites, launched more than a decade later, were anything but geosynchronous. *Echo*, built by Bell Telephone Laboratories and launched by the National Aeronautics and Space Administration (NASA) into a low orbit in 1960, was just a big metallic balloon that served as a mirror off which radio signals could be bounced. *Telstar*, launched in 1962, had an active transponder (or transmitter/responder, the device that receives a signal, amplifies it, and passes it along), but it too followed a low orbit that made it useless for its primary purpose much of the time. Still, *Telstar* carried the world's first intercontinental television broadcast—a shot of an American flag waving over the AT&T earth station in Andover, Maine. The broadcast was only a test, but it was intercepted in England and France. The first functioning geosynchronous satellite, *Syncom II*, was launched the following year. President John F. Kennedy christened it by placing a telephone call to Abubakar Balewa, the prime minister of Nigeria.

In 1964 American television viewers watched part of the Tokyo Olympics courtesy of *Syncom III*. Other special events were broadcast from time to time. But television was not a priority of early communications satellites, which had to shut down all their other transmissions (usually telephone calls) in order to carry a single channel of television. For that matter, communications satellites were not a pri-

ority of the early space program. America's first genuine domestic-communications satellite, *Westar 1*, built by Western Union, wasn't launched until 1974.

In the fall of 1975 Home Box Office, a fledgling pay-television company that had been founded three years earlier by Time Inc., began using *Westar* to distribute programming to its cable affiliates. The first offering was the "Thrilla in Manila," the heavyweight-title fight between Muhammad Ali and George Frazier, on September 30. The fight was transmitted live from the Philippines to HBO cable affiliates serving 15,000 subscribers in Florida and Mississippi.

HBO's decision to transmit regular programming by satellite was viewed at the time as mildly insane. What if the thing fell out of the sky? The networks generally used AT&T's terrestrial microwave links to transmit their shows to stations around the country. Some suppliers distributed programs physically, on videotape. The phone company and the post office seemed comfortingly dependable in comparison with the great beyond. Another factor was cost. In order for an affiliate to receive television signals from a satellite, it needed an earth station—a large, dish-shaped antenna, amplifiers, receivers, and other paraphernalia. In 1975 an earth station could cost as much as \$125,000. This was a formidable investment for a cable operator, who couldn't be entirely certain that any other suppliers would follow HBO's lead or that HBO would stay in business.

One reason satellite antennas were so expensive in 1975 was that the Federal Communications Commission required them to be enormous—nearly thirty feet in diameter. This requirement was intended to protect cable subscribers from receiving substandard pictures (larger dishes generally produce better signals). But earth-station technology improved rapidly, and the FCC relaxed its rules in 1976. By using better receivers and amplifiers, cable operators were able to produce good pictures with dishes less than fifteen feet in diameter. Costs fell dramatically. Today a cable operator using a 4.5-meter dish can set up a commercial-quality earth station for less than \$5,000.

As costs fell, HBO entered a period of dizzying growth. More and more cable-TV systems bought earth stations and began offering HBO to their customers. The service's subscriber base grew from less than 100,000 in early 1975 to more than half a million by the middle of 1976. The drop in prices had another effect, which no one had anticipated: a satellite earth station began to look like something that an ordinary consumer might be willing to buy.

THE FIRST AMERICAN HOME EARTH STATION WAS built from scratch in 1976, by H. Taylor Howard, a professor of electrical engineering at Stanford University. Shortly after HBO began its satellite transmissions, one of Howard's graduate students mentioned to him that transponder 17 on *Satcom 1* (where HBO had moved) was now carrying a television signal. "I simply

went home and poured concrete," Howard says. In his garage was an old fifteen-foot microwave antenna that he had acquired one day in the throes of an overpowering urge to own a large, useless thing. He hoisted it into place.

"I literally had to build everything," he says. "I used some surplus components that were available, like the oscillator and receiver. It was fixed-tuned—only one channel. I used a microwave source that I bought at a surplus store and had to order a crystal for it. That cost a hundred bucks, which was the major cost of the system. It came together very quickly. It's no big deal, actually. It's just a broad-band FM receiver, and there's not a lot to it."

On September 14, 1976, Howard tuned in his first picture. It was HBO, the only American service then regularly carried by satellite. About six months later he wrote the company that he was picking up its signal on a home-built terminal and offered to pay a monthly fee. He never received a reply.

Over the next few years a growing but still small number of electronics gadgeteers cobbled together their own earth stations. Many of these systems were built according to instructions that Howard published in 1979, in a booklet called the *Howard Terminal Manual*, which its fans refer to as the Old Testament of the back-yard earth-station movement. Howard received some help with his manual from Robert B. Cooper, Jr., the editor of a cable-TV trade magazine, who had installed his own dish, a twenty-footer, in Arcadia, Oklahoma, in 1977. Today Howard and Cooper are known as the fathers of satellite television. Cooper publishes *Coop's Satellite Digest*, a fortnightly journal also referred to as the Old Testament of the back-yard earth-station movement. Coop has a pipe permanently stuck in his mouth and is a well-known character in satellite circles. He is also a literary stylist with a passion for inverted commas and bold-face type. Reminiscing about the early days of the industry he helped create, he wrote recently,

My family became the first 'Satellite TV Junkie' family in the USA. I would later learn that **Rod Wheeler**, up in the Yukon in Canada, had preceded us with his own terminal by a month or so, and **his family**, living in a log cabin 15 miles from the nearest town, was already 'hooked' when we turned on down in Oklahoma. Everything was on horizontal polarization in those days; it would be 1978 before anything came up on vertical and I would be faced with 'that' problem.

In 1978, before the full flowering of his prose style, Coop wrote an article for *TV Guide* that is not infrequently referred to as the Old Testament of the back-yard earth-station movement. By this time the networks had made a few bolder forays into outer space, using satellites to send programming to their affiliates and to receive transmissions from the field. NBC used a satellite to transmit *The Tonight Show* live from Burbank, California, to its headquarters in New York, where it was taped and edited for later broadcast. "The live version on satellite is typically sent without 'bleeps' and often without commercials; during those numerous commercial breaks the cameras and mikes contin-



ue to run 'hot' on the satellite," Coop explained in *TV Guide*. "Around our house we call this version 'R-rated Carson.'" The networks also used satellites to transmit regional sporting events back to New York, making it possible for diehard football fans to pick up virtually any NFL game being played anywhere in the country, even when it was blacked out in their own city. (Some of the earliest and most enthusiastic owners of earth stations were bookies.)

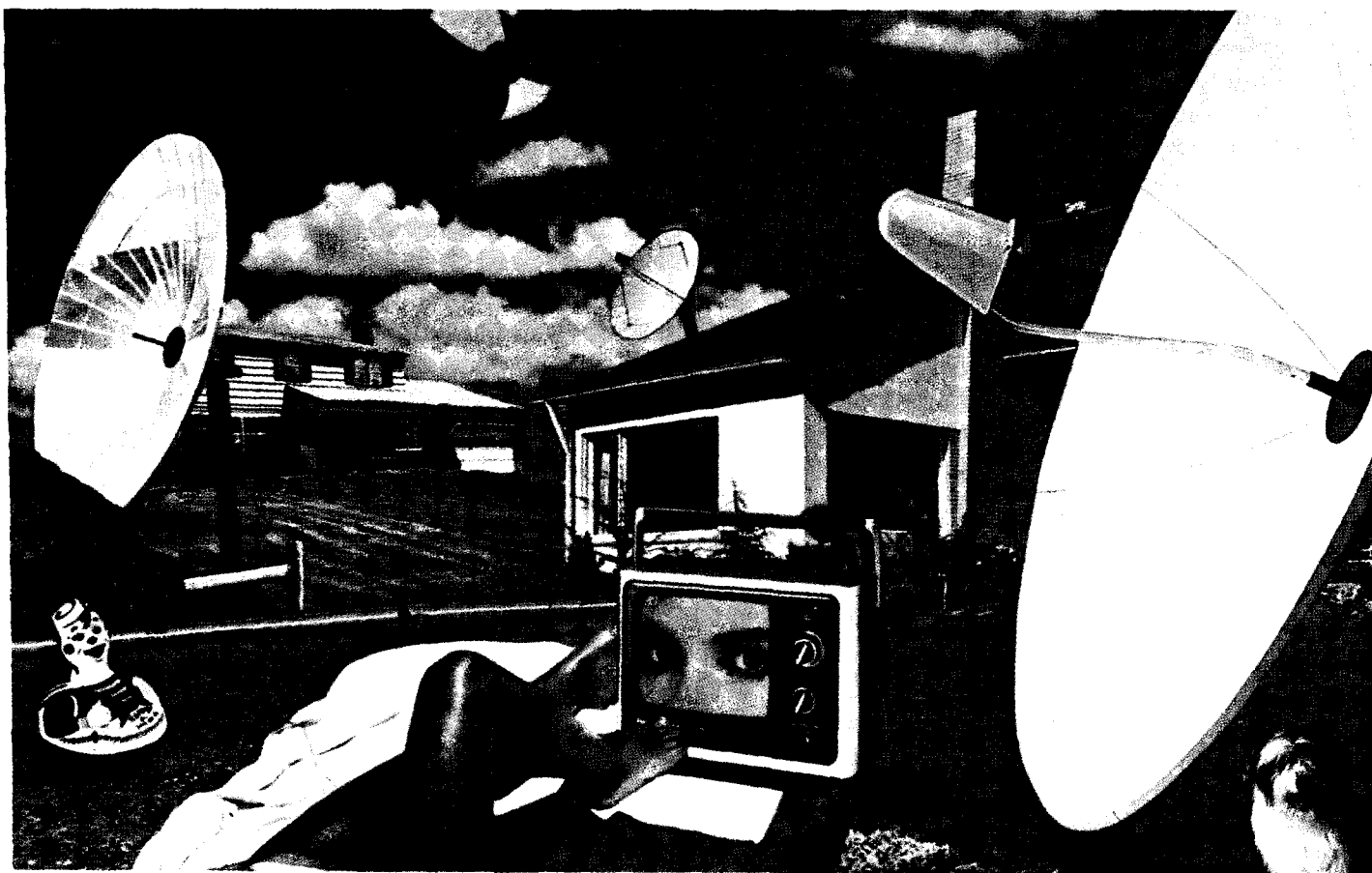
Several brand-new programming suppliers were also taking advantage of thitherto unused satellite transponders: Showtime, a new movie channel that competed with HBO; WTCG, Ted Turner's Atlanta "super station," now called WTBS (at about the same time, Turner installed a dish on a trailer so that on business trips he could watch his station); and a number of religious channels, including TBN (Trinity Broadcasting Network), CBN (Christian Broadcasting Network), and PTL (which stands for People That Love, a religious network, as well as *Praise the Lord*, a popular offering on TBN). All these transmissions were intended for cable-TV operators, who paid fees for the right to include them in the programming packages that they sold to their subscribers. But anyone with a dish in his back yard could pick them up as well.

Space-age television was full of unanticipated pitfalls for broadcasters. One of the first markets for Turner's super station was a cable system in Hawaii. Turner's station in those days carried commercials by, among others, local

automobile dealers. When Hawaiian viewers saw how inexpensive used cars were in Atlanta, they were furious. It did no good to remind them that they lived in a very nice place where many Georgians would be happy to spend their vacations. Turner's sponsors had to be told to keep their prices to themselves.

Gradually the back-yard earth-station movement began to expand beyond its early base of ham-radio operators and electronics tinkerers. Farmers, ranchers, and other people who lived in remote areas that would never be wired for cable saw dish antennas as their only chance to get decent reception. Neighbors dropped by to complain about the damned radar station, stuck around to watch a bit of the Canadian broadcast of *Charlie's Angels*, and went home to order dishes of their own. Ten thousand dollars could seem like a reasonable price to pay for dozens of crystal-clear channels where there had been only static before. The number of programs increased, and antenna manufacturers, having exhausted their original market of cable operators, began selling dishes in suburban neighborhoods where reception wasn't a problem: people just wanted to watch a lot of TV. Satellite stores began to pop up in shopping centers. Prices fell further and the equipment became more sophisticated. In the early days earth-station owners had to move their dishes by hand to switch from one satellite to another. Today changing satellites is as easy as changing channels.

The cable business, meanwhile, was continuing to ex-



pand, and more and more new programming was turning up on the satellites. The boom led to some interesting juxtapositions. Today on *Satcom F4* the National Christian Network is just five transponders away from the Playboy Channel. In between are Netcom, a network for teleconferencing, Sportsvision (Chicago-area sporting events), American Movie Classics (films at least fifteen years old), and Home Sports Entertainment (sporting events in Texas, Louisiana, Arkansas, Oklahoma, and New Mexico). On *Westar 5*, forty degrees west of *Satcom F4*, the services include one X-rated network, the Financial News Network, a service that covers harness racing in Pennsylvania, a service that covers regional sports in Michigan, and the University Network, an uncategorizable potpourri masterminded by Dr. Gene Scott, a Stanford-educated evangelist who has been known to raise money for his station by staring into the camera in reproachful silence until his viewers are shamed into contributing. Eleven degrees farther west is *Galaxy 1*, home of, among others, HBO, Showtime, the Cable News Network, the Spanish International Network, the Entertainment and Sports Programming Network, C-SPAN (the network that covers Congress), and WOR-TV, a New York-area independent. (All of this changes from month to month, and even from week to week.)

In the early days picking up satellite broadcasts with back-yard terminals was, at best, of dubious legality. Cooper and Turner had licenses from the FCC permitting

them to use their antennas for "experimental" purposes. But most other earth-station owners operated in at least apparent violation of the nation's principal broadcasting law, the Communications Act of 1934. In 1934 not even Arthur C. Clarke had anticipated that children in Arcadia, Oklahoma, would one day rush home from kindergarten to watch reruns of a show like *Gilligan's Island* beamed from a point in space 22,300 miles away. When earth-station owners numbered no more than a few dozen, nobody worried very much about the law. But as the number of satellite transmissions increased, and as the number of earth-station owners swelled, programming suppliers, broadcasters, cable operators, and legislators gradually realized that they had a problem on their hands.

Late last October this problem was partly resolved (or at least deferred) by the Cable Communications Policy Act, which made it legal for private citizens to own and use earth stations. But many snags remained. Premium programmers like HBO and Showtime had been annoyed that hundreds of thousands of dish owners were watching their programming for free. The new law made such viewing legal until programmers either scrambled their signals or initiated some sort of marketing scheme that would enable earth-station owners to pay for the television they watched. The premium programmers promised that they would scramble.

While HBO and Showtime fretted about viewers they didn't want, other companies set out to provide program-

ming directly to the back-yard market. Calculating that many Americans would be willing to buy satellite systems if the antennas could be made small and cheap enough, a few companies invested hundreds of millions of dollars to build high-powered satellites whose signals would be receivable by dishes just two or three feet in diameter. This still largely hypothetical television service is known as Direct Broadcast Satellite, or DBS. DBS shows signs of being one of the most expensive bad ideas in the history of telecommunications (for reasons that will be explained later), but in the early 1980s it looked to some people like the future itself.

Back-yard earth stations, meanwhile, have multiplied far beyond the early imaginings of Taylor Howard and Bob Cooper. Earth-station owners who have time to read can choose from among perhaps a dozen satellite magazines and program guides—including one glossy hundred-page publication devoted solely to the shows on *Galaxy 1*. It is estimated that 20,000 to 40,000 new stations are being installed every month, and the pace is quickening. A complete home system—including a dish antenna big enough to horrify almost any neighbor—can now be had for less than \$2500.

A SATELLITE, IT TURNS OUT, IS SURPRISINGLY LARGE. Not long ago I saw several tremendous ones being put together at Hughes Communications, in Los Angeles, a company responsible for many of the “birds” (as they are known to the trade) in the Clarke Belt. The biggest was *Intelsat VI*, an international-communications satellite scheduled to be launched next year. When fully deployed in outer space, it will be twelve feet in diameter and nearly forty feet tall—smaller than a grain silo but vastly larger than the stove-sized canister I had been expecting.

Before you can look at the satellites at Hughes, you have to put on a smock—just for “psychological reasons,” according to my guide, Emery S. Wilson, Jr. Everyone in the assembly area had one on. Mine was dark blue; Wilson’s was light blue. We walked around the immense building and peered into things. Satellites are made of wires, metal strips, aluminum foil, garden hose, the insides of old TVs, and a number of items too technical to be of interest to the general reader. There was a piece of space shuttle in one corner. Some engineers were working on a satellite for Australia that will bring television not only to the outback but also to Papua New Guinea. Nearby were a couple of huge space-simulation chambers for testing new birds. Space-simulation chambers! But it turns out that weightlessness is one thing the chambers can’t simulate.

Hughes’s best-selling bird is the HS 376. *Galaxy 1* and *Westar 5*, to name two, are versions of this popular design (*Satcom F4* was built by RCA, the other major manufacturer of communications satellites). Those two satellites that the space shuttle rescued last year were HS 376s. The HS 376 is cylindrical, like *Intelsat VI*, but only twenty feet long

when deployed. When the shuttle launches one, it pushes it out on springs, Wilson told me. The insides of the satellite are then “de-spun” and a dish-shaped antenna pops up at one end like the lid of a can. This dish collects signals from the ground, feeds them into an amplifier, and then beams them back down to the ground. Doing this requires surprisingly little electricity. *Galaxy 1*’s twenty-four transponders can transmit twenty-four channels of television at just nine watts each—approximately the same output as a flashlight.

When my tour ended, I turned in my smock and drove over to the Airport Park Hotel to meet Tim Givens and Doug Brown, Jr. Tim and Doug work for a magazine called *STV*, which of course stands for “satellite television.” *STV* is an informative publication whose writers nonetheless sometimes stray into the realm of fine writing. “Looking back over many a dull and droll biology course,” one editor wrote recently while musing about the proper plural of *antenna*, “we seem to remember that ‘antennae’ were something on bugs (female bugs at that). Antennas usually are on houses, cars, buses, boats, airplanes and other sundry modes of transportation and places of habitat.”

Tim and Doug are not primarily or even secondarily writers. Their jobs at the time I knew them involved driving around the United States and Canada in a van with two dishes (the safest plural of *antenna*) mounted on a trailer behind it. Every four hundred miles they would stop, rev up their portable Honda generator, tune in each of the dozen or so North American birds that carry significant amounts of television, and measure the strength of every channel. Satellites generally don’t transmit their signals uniformly in all directions but instead focus them on the parts of the earth they want to reach. *Westar 4*, for example, aims the bulk of its signal at the continental United States (the best viewing area is somewhere in the Midwest). The area where a satellite’s signal falls is known as its footprint. Doug and Tim’s mission was to measure all the footprints and compile a signal-strength chart that would help people in different parts of the country figure out what size dishes they ought to buy in order to receive good pictures.

I had learned about the Van’tenna (as the vehicle is known) in a copy of *STV* that I had bought on a whim. I live in Manhattan, where there is essentially no market for private satellite TV. You just can’t put a dish in your apartment, and if you could you probably wouldn’t, because the city is teeming with microwave interference (primarily from the phone company, but also from taxi radios, beepers, cellular phones, and television relays, all of which bounce around among the skyscrapers and play havoc with satellite signals). There is no reason in the world for my local newsstand to carry *STV*, but it does. In order to keep the magazine in stock I stroll in every couple of weeks and buy another copy, creating the illusion of impetuous demand. On the cover of the first copy I bought was a picture of the Van’tenna, its two big dishes filling the foreground. Tim was standing alongside and looking

through the viewfinder of a video camera. In the background, pecking over the tops of some trees, was the Washington Monument. When I saw that picture, I knew I wanted to ride in that van. I called Tim's boss, and he said it would be all right.

Tim, Doug, and I drove in my rental car up to Reseda, several miles north of Los Angeles, where they had left the Van'tenna. Tim and Doug were both in their early twenties and both from Shelby, North Carolina, where *STV* is published. Both had moustaches. Doug had a thick drawl that turned his partner's name into a languorous disyllable: *Teeeeeeeeum*. The van was parked in front of the home of Denis Dushane, who with his two brothers and a third partner owns Janeil Corporation, a manufacturer of dishes, receivers, and other satellite equipment. Denis had a big Janeil dish mounted on a pole above his patio. In his living room was a big-screen TV, a huge bank of electronic equipment, and shag carpeting so thickly padded that you could have dived into it from the back of the couch and not hurt your head. We watched a little television with Denis and one of his children, just to get in the mood, and then loaded up the van and headed for San Diego, where the next signal check was to be made.

The Van'tenna is a sleek Dodge Ram painted silver and festooned with racing stripes. Virtually every inch of its surface that isn't covered with a racing stripe is covered with red or blue lettering: CAN-AM '84 CROSS COUNTRY ROAD TRIP SATELLITE TELEVISION FROM COAST TO COAST STVONSAT CAN-AM ROAD TRIP. (*OnSat* is a weekly programming guide published by the *STV* people.) The interior of the van is done up in plush gray upholstery and wall-to-wall carpet, most of it installed by Doug. There are little venetian blinds in the windows. On that trip most of the back of the van was filled with electronic equipment: two MTI 2800 antenna positioners, two Gould satellite receivers, a GBS 2600 satellite-television test set, a Sky Eye 8, a Sky-Angle, and lots of other stuff. There was also perhaps a hundred dollars' worth of pennies that Tim had tossed back there.

About halfway to San Diego we pulled off the road at a public beach, put our hands in the Pacific Ocean, and walked around aimlessly for a while. We stopped again a little later to watch the sunset. A more or less steady stream of people came over to ask about the dishes. "You get the Playboy Channel on that?" This is a question that almost everybody asks eventually, and the answer to it is yes. A desire to see naked women on their television sets, according to dish dealers, is one of the main reasons men buy dishes. It's not the reason they keep them, however. "They watch the Playboy Channel for about a week," Tim told me. "Then they never watch it again, except when their friends come over and ask them, 'Hey, do you get the Playboy Channel on that?'" A man who looked like a surfboard salesman came over and said he had been thinking about buying a dish. He and Tim discussed specifications. "You get the Playboy Channel on that?" he asked finally, and I stopped holding my breath.

When we were back on the road again, something at Camp Pendleton kept setting off Tim's radar detector. Then we saw a UFO. Ringed with red lights, it zoomed across the sky, stopped suddenly, and swerved off at an impossible angle. What looked like little faces peered down from the windows and seemed to signal us—but it turned out to be just a prank, a helium balloon with a flare tied to it drifting slowly across the sky. At around seven we stopped to buy gas. "It seems weird that back home it's damn ten o'clock," Doug said. Next door to the gas station was a store apparently called the Liquor Motel. We went in and bought scotch, bourbon, beer.

THERE ARE TWO SITUATIONS IN WHICH YOU ARE ALLOWED to watch as much television as you want to: when you are sick and when you are at a motel. Most people, when they go to a motel, turn on the television set immediately, even before they go into the bathroom to see what kind of free soap the maid has given them. At the Best Western in Vista, though, we didn't bother with the TV in the room. Tim called the airport to find out our latitude and longitude and we put the beer on ice in the van. Then Tim and Doug began to set up the antenna.

A dish antenna isn't shaped like just any dish. If you sawed one in half, the cross section would be a parabola. Microwaves landing anywhere on a parabolic surface are reflected to a single point above its center. This focuses and amplifies them, making it possible to transform a weak and dispersed signal from outer space into twenty-four channels of television (or as many as 324,000 simultaneous telephone conversations). You can demonstrate this principle by putting your ear at the focus point and listening while Tim and Doug shout "You idiot!" into the dish. The sound waves act just like microwaves from space, bouncing off all parts of the dish and boring powerfully into your brain.

The concentrated satellite signal at the focus point is gathered by a funnel-like device called a feedhorn, which strengthens the signal and prunes away unwanted frequencies. The signal is then fed into a low-noise amplifier (LNA), which beefs it up further and passes it along to a down converter, which changes its frequency and passes it on to a receiver, which amplifies it again and passes it on to a radio-frequency modulator, which turns it into exactly the sort of signal a television set is accustomed to receiving from its VHF antenna or cable.

Satellite-television equipment is evolving rapidly. In another couple of years the equipment will have been simplified to the point at which a consumer won't have to do much more than stick his dish in his yard and run a single wire in to his TV.

Before a dish can receive a signal from a satellite, it has to be aimed directly at the satellite. Tim aimed our dish by taking the latitude and longitude of our motel, subtracting them from the latitude and longitude of *Comstar D4*, con-

sulting his *World Satellite Aiming Guide* (published by STV), yelling at Doug, fiddling with some dials, and yelling at Doug again. Finally he found *Comstar*. Once you know where one satellite is, finding the others is easy. (People whose dishes are installed in permanent locations don't need to go through this rigmarole every time they want to watch TV; most systems have computerized actuators that move the dishes automatically.)

Well, Doug and I had a beer and Tim had some scotch. Then I had some bourbon and Doug had another beer and Tim had some more scotch. Then we all had a drink, and so on. A commercial for LA beer came up on the screen. Low-alcohol beer! What's the point? Then we watched some sort of helicopter show. Tim flipped away from it just as the helicopter was about to be blown up with a Molotov cocktail made out of a camping lantern. I was actually starting to get interested in the story—did the show really have a budget big enough to allow for the destruction of a helicopter?—but when you have your own earth station, you don't want to waste all your time watching one particular channel, because there are so many other channels that you could be watching. So Tim moved us over to *Galaxy 1*, where we watched a few minutes of a football game.

During the Olympics, Tim said, people with dishes could watch any event that was going on at any time, by flipping through the numerous transponders that ABC had leased for the occasion. They didn't have to watch those men throwing a ball around in a swimming pool if they didn't want to. They could watch, say, those horses running around on the golf course instead. And no commercials. During the political conventions, he said, he'd seen network correspondents scurrying around the floor, yelling at their technicians, combing their hair, complaining about the stupid politicians, and—mostly—complaining that they weren't getting as much air time as they deserved: network television in its underpants, as it were. Earth-station owners can also watch live transmissions from the space shuttle on channels that RCA provides free of charge to NASA. Network coverage of shuttle flights seems for some inexplicable reason to be limited to the landings. How many times can anyone watch the shuttle touch down in the desert? But the NASA channel shows everything that goes on aboard the flights, including swearing, thumb-twiddling, and goofing around.

One of the most popular satellite "shows" used to be the Chicago feed of ABC's *World News Tonight*. For several hours each afternoon Max Robinson, the Chicago anchor, would sit at his desk in front of a live camera, preparing for the few minutes during which he would be woven into the fabric of the evening news. While he waited, he yelled at his colleagues, told dirty jokes, screamed at people on the phone, and developed a wide but secret following among dish owners. Dish installers checked out new systems by tuning to the Max feed. Fans built vast libraries of Max tapes. Some people felt that the "hairspray incident" was the purest expression of Max-ness; others savored the con-

tinuing series *Max Buys Things on the Phone*. Max cults sprang up. Finally ABC caught on and shut him down.

We poured another drink, and Tim turned to transponder 12 on *Satcom F4*—the Playboy Channel. When I was in third or fourth grade, my friend John Ruth told me that late at night, after the three networks had gone off the air, you could see naked women on TV. This was not the only piece of incorrect information I ever received from John Ruth. But on several occasions when I was spending the night at his house, we stayed up past "Moment of Meditation" and the musical version of the Lord's Prayer and turned the dial expectantly from staticky blur to staticky blur until, finally, at what seemed like dawn but probably wasn't much past midnight, we fell asleep.

Nowadays, however, third- and fourth-graders in many parts of the country are able to do what John Ruth and I were not. A game show called *Everything Goes* was on the Playboy Channel when Tim tuned in. A young woman was introduced to three men and then had to try to identify them by looking only at their bare bottoms. She missed two out of three and had to let a fourth man take off some of her clothes. She and this man, her opponent, were asked various questions, and when they answered wrong they had to surrender some of their clothes. Finally it was time for the last question, which would decide which contestant would have to take off almost everything. "The guy almost never has to strip," Tim said. Sure enough, the woman was asked an impossible question and had to let the man take off her brassiere. After a full half hour of inane buildup, she didn't seem nearly naked enough. Then she had to stand around—reluctantly, it appeared—chatting casually with the host and the other contestants while the credits rolled.

At ten o'clock the manager of the motel came out and said that the Honda portable generator was making too much noise. No problem! We poured another drink and Tim produced three huge orange extension cords from somewhere in the van. We linked them together and ran them from the van across the parking lot, up over the balcony, and into Tim and Doug's room. We stuck the plug into the wall socket. The picture came back on. We had a drink to celebrate and then flipped to a more pornographic channel. The manager came out again to say that a guest, apparently having stuck his head out his window and focused binoculars on the van's rearview mirror, had discerned that we were watching something that offended him and had requested that we knock it off. No problem! While the manager lingered at the door of the van, eyes glued to the screen, Tim pulled out a sort of vinyl tarp that hooked onto gizmos in the ceiling of the van and formed a curtain covering all the windows. By this time we had drunk to what is commonly called excess, and putting up the curtain involved a great deal of falling down and knocking over bottles, cans, suitcases, the ice chest, papers, boxes, tools, and pieces of electronic equipment. Pennies tinkled onto the asphalt. Lights flicked on in a number of motel rooms, and a few doors slammed. We

Just a word about the price of The Glenlivet. Preposterous.

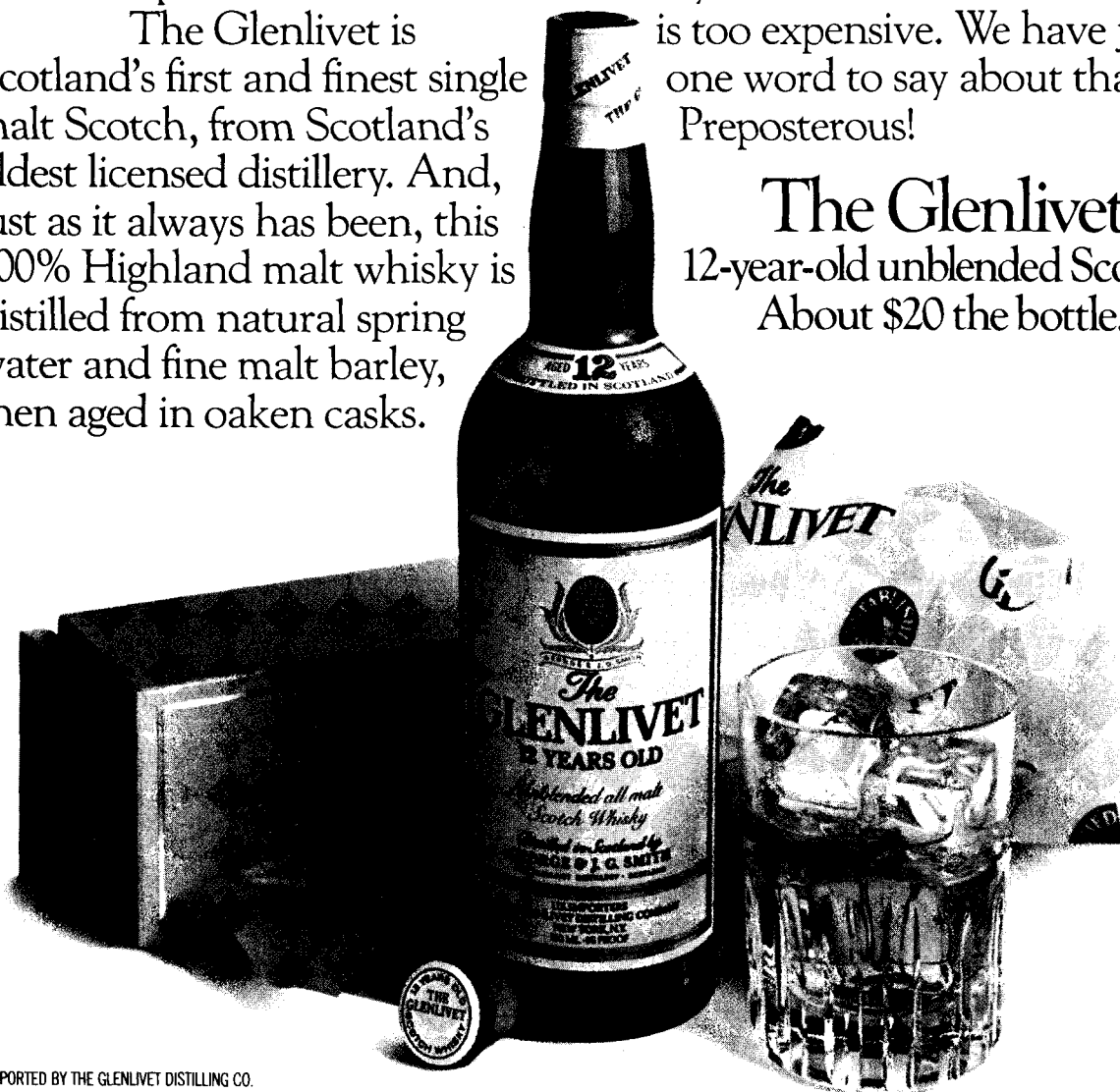
Is the premium we place on The Glenlivet really so outlandish? No more so than the premium placed on great vintage wines and fine champagne cognacs. The reason? Taste. Just one sip and you'll know that The Glenlivet has a taste that's without equal.

The Glenlivet is Scotland's first and finest single malt Scotch, from Scotland's oldest licensed distillery. And, just as it always has been, this 100% Highland malt whisky is distilled from natural spring water and fine malt barley, then aged in oaken casks.

Only The Glenlivet's time-honored methods can achieve this unequaled taste. A taste that sets us apart. Its smoothness, body and bouquet are qualities found only in this unique Scotch.

Of course, some people may still insist that The Glenlivet is too expensive. We have just one word to say about that. Preposterous!

The Glenlivet
12-year-old unblended Scotch.
About \$20 the bottle.



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How to avoid paying your bills.

by Alan Greenspan



Alan Greenspan, Famous Economic Advisor

"The other day, a prominent politician in the executive branch of our government phoned me up.

'Alan,' he said to me, 'the budget is a mess.'

'No joke,' I said.

'Not that budget,' the prominent politician continued. 'My budget. My checking's overdrawn. They're threatening to disconnect my phones. I even got into a shouting match with my wife when I tried to lay off the servants.'

'Civil?'

'Not very. And I think I'm about to be audited. What would I show them? Who keeps receipts for embassy parties?'

At this point, we were disconnected. And although it was too late to teach proper money management to this prominent politician, there is a lesson all of us can learn from his misfortune.

Everyone has to pay their bills, and nobody likes to do it.

You can keep file folders full of bills, drawers stuffed with grocery receipts, envelopes brimming with cancelled checks, and at the end of the month, it still takes hours to figure out just where your money has gone. Not to mention how long it takes to straighten things out at the end of the year.

Well, after years of financial consulting, I've discovered a way to avoid paying your bills: let an Apple® II Personal Computer pay them for you.

There are several advantages to letting an Apple handle your finances.

It will save you time.

It will organize everything.

It will tell you, at a glance,

exactly what is going on with your money.

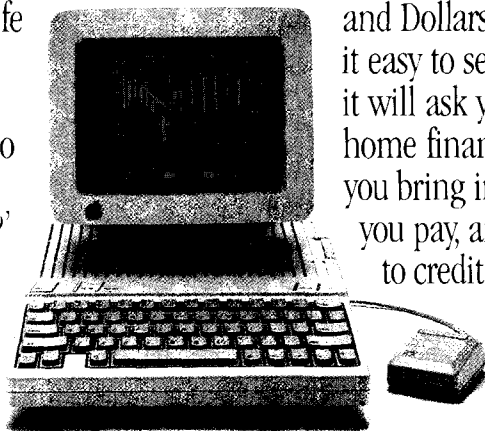
It will pay your bills, and never send you any.

And now, I'd like to turn the page over to those nice people at Apple, who will explain, in their own excruciating detail, just what I'm talking about."

The Apple II and the Home Budget.

With software programs like The Home Accountant™ and Dollars & Sense™, the Apple II makes it easy to set up household books. First, it will ask you some questions about your home finances. Like how much money you bring in each month, how much rent you pay, and whether you owe money to credit card companies, mortgage

holders, or any other surly characters. Then, it will ask you to enter some of the bills you receive each month whose prices may vary:



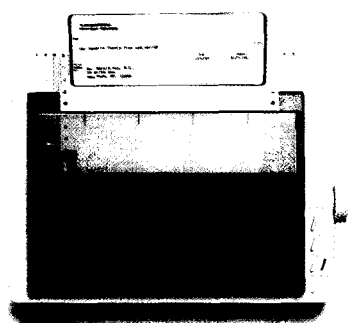
An Apple II will take care of everything from your household budget to your taxes with software programs like Dollars & Sense, The Home Accountant, and Tax Preparer.

phone, utilities, and the like. Then, it will ask you where you keep your money, and for the numbers of your various checking and savings accounts.

That's really all there is to it. After that, an Apple II can automatically write checks for all your fixed expenses each month. It will also tell you what other bills you can be expecting, and when you enter their costs, an Apple II will pay them, too.

An Apple II will see to it that your checkbooks remain balanced, and that you'll know when your expenses are about to exceed your income. It can even help you plan to buy a new car. Or a home.

Or a fur-lined boat, if your budget permits.



With our Scribe® color graphics printer, you can automatically print out your own checks — not to mention reports, papers, almost anything. Except money.

How to avoid your banker.

After the Apple II writes your checks, it can call your bank with the help of your telephone and an Apple modem. And faster than a teller can say "Next window,

please," you can find out all your balances, enter deposits, see what checks have cleared, transfer money from one account to another, and even pay off some of your credit cards and other bills electronically — without ever writing a check.

So the only time you'll have to go to the bank is when you want to visit with your money, personally.

Which, when done in moderation, we can recommend most highly.

The Apple II and making money.

An Apple II can do wondrous things for your personal finances. With several different software programs, you can become your own stockbroker. Again, by



This is an Apple modem. Not much to look at, we admit, but it does let you pay bills and trade stocks by phone. It also connects your Apple II to a wealth of information services, like THE SOURCE™ and CompuServe®.

using an Apple modem, you'll gain instant access to financial news sources like *The Wall Street Journal*, *Barrons*, and the Dow Jones News/Retrieval® service. Find out what they've been saying on *Wall Street Week*. And in most cases, get up to the minute price quotes on over six thousand stocks, options, and other securities.

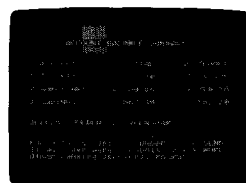
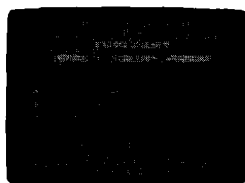
An Apple II lets you buy and sell securities right in your home or office, at the moment you want to make the trade. It automatically updates your portfolio and gives you detailed holding reports. It even produces charts and graphs, so you can quickly see how you and your investments are doing.

A little tax relief.

If you become perturbed everytime the subject of doing taxes comes up, an Apple II can do them for you with programs like Forecast™ and Tax Preparer™.

It can store your records, plan for the next year, and calculate your taxes.

You'll be alerted to payments you've made over the year that may be tax-deductible. It even keeps year-round records, automatically updating totals and making corrections for you. It will even print



It can manage your entire stock portfolio with programs like Dow Jones Investor's Workshop™ and Charles Schwab and Company's The Equalizer™. It can even show you what's going on in your bank account.*

out completed tax forms that the I.R.S. will accept.

And it can do about 10,000 other things totally unrelat-

ed to taxes or this ad. So there's no telling how far an Apple II can take you.

"Well, I think that about covers it. And what if, after all of this, you still have some money left over?

Congratulations. You're doing a lot better than the government."



* A note to Dr. Greenspan's relatives: He says, "Don't get excited. This isn't my real bank account." © 1985 Apple Computer, Inc. Apple and the Apple logo are registered trademarks of Apple Computer, Inc. The Home Accountant is a trademark of Continental Software. Dollars & Sense and Forecast are trademarks of Monogram. Dow Jones News/Retrieval and Dow Jones Investor's Workshop are trademarks of Dow Jones and Company, Inc. Tax Preparer is a trademark of Howard Software Services. Scribe is a registered trademark licensed to Apple Computer, Inc. THE SOURCE is a service mark of Source Telecomputing Corporation, a subsidiary of the Reader's Digest Association, Inc. CompuServe is a trademark of CompuServe Corporation, an H & R Block Company. The Equalizer and Equalizer are trademarks of Charles Schwab & Company, Inc. Spectrum is a registered service mark of the Chase Manhattan Corporation. For an authorized Apple dealer near you call (800) 538-9696. In Canada, call (800) 268-7796 or (800) 268-7637.



poured another drink and decided that, all things considered, we had watched enough TV. I drained my glass while Tim and Doug shut down the equipment and became hopelessly entangled in the serpentine extension cords. And so to bed.

GINGER ROGERS DID EVERYTHING FRED ASTAIRE did, except backwards and in high-heeled shoes," said Pat Porter, who had just been introduced as "the most wildest speaker we've ever had." We was STTI, Satellite Television Technology International, a trade association made up of people who build and sell earth stations. STTI was holding a trade show, the week before Thanksgiving, at the Loews Anatole, in Dallas. Porter, the marketing manager of a company called Star-Com, was giving a talk titled "The Oldest Profession Explained." I slipped out before I could figure out what he meant by this. He couldn't possibly have been referring to the home-satellite business, which is neither old nor a profession (although, like all businesses, it longs to be the latter; some dish dealers have taken to calling themselves certified satellite professionals).

Earlier that morning, in the auditorium where Porter was speaking, a man named Guy Davis had asked, "Is there anyone that's been in the industry for more than two years?" Perhaps ten people, in an auditorium filled with earth-station dealers, distributors, and manufacturers,

raised their hands. One of the hallmarks of the earth-station movement is, to put it mildly, a certain thinness of experience. "The uninformed person is capable of making a very good living in this industry," Davis confided. A recent survey, he said, had found that 80 percent of new dish buyers were unhappy with their purchases, presumably because dealers had installed them improperly or made exaggerated claims. "That's a sad statement of affairs to make," Davis said. Even the experts haven't been experts for very long: five years ago only a handful of people had so much as heard of satellite TV.

At one point I stepped out into the hotel's parking lot, to take a look at seventy-five dishes of varying sizes, all aimed at the Clarke Belt and funneling television signals into the convention hall. There were supposed to be more dishes, but the parking lot isn't very big. At the previous major satellite show, at Opryland, in Nashville, there had been more than 300 functioning antennas.

Back inside, I wandered past an extortionate hot-dog stand and made my way into the main exhibition area, where several hundred booths had been erected. Television sets were everywhere: *Bewitched*, *The Right Stuff*, the Three Stooges, a tape of the most recent space-shuttle mission, *Regis Philbin's Healthstyles*, the new Paul McCartney video, a program in Spanish called *Principles of Sunday School Growth*, *The Young and the Restless*, a Canadian McDonald's commercial in French, *I Dream of Jeannie*, the Weather Channel. Two Dallas Cowboys cheerleaders

were autographing little plastic footballs at the StarCom booth. When they finished signing a football, they tucked it hygienically into a little plastic bag. I put mine in the pocket of my jacket and moved along to the Basic Systems booth, where Mrs. Texas was autographing pictures of herself. (Miss Texas would be on duty at the StarCom booth the next day.) In another part of the hall was Kenda Moore, a volunteer sheriff-dispatcher whose other titles, according to a bulletin she handed me, include Miss Pre-Teen Missouri, Junior Miss Missouri, Camdenton's Junior Miss, Miss Teen Missouri, Miss Camden County, and, most recently, Miss DialCo (DialCo makes mounts for dishes).

The crowd in the exhibition hall was a boot-rich and tie-poor collection of relatively young and almost exclusively white men who gave the impression of having entered the earth-station business after having lost almost all their money selling citizen's-band radios. The equipment on display was bafflingly various. There were solid dishes, mesh dishes, fiber-glass dishes, aluminum dishes, plastic-coated dishes, stainless-steel dishes, white dishes, black dishes, small dishes, huge dishes, one-piece dishes, two-piece dishes, fifty-piece dishes. One company was selling a dish that could be mounted on the roof of a camper; another was selling one that folded up like an umbrella. "We guarantee it for a year, but we expect it to work fine for five," said one grinning exhibitor, his arm wrapped like a steel band around the shoulders of his would-be customer.

"What makes your dish different from everybody else's?" I asked another exhibitor. "It's blue," he said. A man nearby was selling a polyurethane foam called Froth-Pak, which he said was a fast-setting alternative to concrete and was suitable for dish-mount installations. He was demonstrating the stuff by squirting it into paper cups, where it looked like that frozen drink sold at 7-Eleven stores. "I used to put straws in them," he said. Every now and then someone came up and tried to make off with one. Exhibitors at two booths were selling videotapes intended to teach dealers how to install satellite-TV systems. One videotape recommended doing something that the other videotape said never to do (use electrical tape).

I asked a reporter from a trade magazine how many of these exhibitors he thought would still be in business the following year. "About thirty to fifty percent," he said.

The earth-station industry is going through a period of churning innovation. Rapid technological evolution has made it possible to buy an earth station today for a fraction of what an inferior system cost just three or four years ago—but that evolution has also left a lot of corpses. Part of the fun of wandering around a trade show like the one in Dallas lies in trying to guess which exhibitors will end up as forgotten martyrs to the business they are creating. "Nineteen eighty-five is when they start playing hardball," said one exhibitor, a man who ran a satellite business as a sideline to his automobile dealership. Ominously, several booths were manned by Japanese.

LATER IN THE DAY TWO REPRESENTATIVES FROM HBO paid a surprise visit to the Loews Anatole and held a secret meeting with the board of directors of SPACE (the Society for Private and Commercial Earth Stations), a trade association. The chairman of SPACE is Taylor Howard, the engineering professor who built the first American back-yard earth station. Shortly after the meeting began, I joined a small group of trade-magazine reporters in geostationary orbit outside. A camera crew from Boresight, a perhaps too hastily named satellite-television network that covers developments in satellite television, shot some poignant footage of the closed door.

Actually, everyone knew what the secret meeting was about: HBO's plan to scramble its satellite signals in order to make them unintelligible to back-yard earth stations. HBO had announced that it was on the verge of encrypting its programming. This plan greatly annoyed SPACE, STTI, and almost everyone with a dish in his back yard. The fun of owning an earth station would diminish sharply if there was nothing up there to watch, and it was feared that HBO's move would have a domino effect. Howard said that earth-station owners would happily pay for services like HBO if some reasonable billing method could be devised: perhaps viewers could rent decoders from their local cable affiliates. SPACE wanted HBO to delay scrambling until someone could figure out a way to make this possible. HBO was not eager to take on the headaches of selling its programming directly to individual viewers. But it was reluctant to alienate the back-yard market entirely. Pay television's heady growth years were over, and HBO was having trouble scraping up new customers. In fact, the company had just laid off 125 employees. If the back-yard earth-station movement ever got big enough, HBO might be very interested in it. In the meantime, though, there was little to discuss. The HBO representatives were saying words to this effect to the board of SPACE, and the board of SPACE was preparing to sound annoyed at the press conference that would follow.

The threat of scrambling hung over the Dallas show like a cloud. It was the thinkable unthinkable. The partly wishful consensus was that full-scale signal encrypting of the sort HBO was contemplating was not yet workable. In any scrambling system, decoding devices have to be installed at every point where the scrambled satellite signal is received—known in the cable business as a head end. Large cable systems usually have more than one head end, because it is usually more convenient to have several distribution points than to route every wire back to a single receiving station. HBO delivers programming to roughly 6,000 head ends. Most of these would require at least two decoders—one for HBO itself and one for Cinemax, its sister service—and so there would have to be about 10,000 decoders in all. If anything went wrong with any of them, the area it served would be blacked out, and angry customers would jam the phone lines with complaints. By the time of the Dallas show roughly a dozen satellite-television services were transmitting scrambled signals using en-

crypting systems manufactured by a company called Oak, based in Illinois. Problems with the decoders were fairly frequent.

HBO had helped to foster skepticism about its plans, by claiming repeatedly that it was on the verge of scrambling and then postponing the date. Apparently it had been having problems with decoders too. (HBO's were being developed not by Oak but by M/A-COM, a high-technology company that had built its reputation in part by supplying encrypting equipment to the Pentagon. If the President ever decides to start a nuclear war, he will use M/A-COM equipment to do it, I was told.) Some industry observers had decided that scrambling was all a bluff. John Stover, the editor of something called the *Home Satellite Market Report*, had said as much in *STV*: "Even if the equipment performed perfectly, which it won't, and even if the programmers quit simulcasting clear transmissions, which they can't, *scrambling just won't work*." And yet, and yet. Earth-station dealers and owners were worried that they were living on borrowed time.

The debate about scrambling, and about who owns the microwaves that carry television signals through outer space, is typical of the sort of confusion that arises when technology bounds off in some bold new direction. Americans are accustomed to thinking of television as something they receive for free. TV is part of "the air"; you turn on your set and there it is. Satellite television also comes out of the air, and therefore it should be available to everyone at no cost, according to this way of thinking. There is also a quaint but widespread conviction that things that are invisible are not real and thus cannot be owned. Cable television seems different because it is distributed by wire, and people are used to paying for things that travel by wire (such as electricity and phone calls).

Programming suppliers like HBO take the wholly modern view that a satellite-television signal can be stolen just as surely as an idea can. In most other contexts it would be hard for an educated person to argue with this point of view. This is 1985, after all; germs, oxygen, and many other essentially invisible things are known to be quite real. But satellite television poses a special problem. HBO would not exist if American taxpayers had not pumped hundreds of millions of dollars into the space program over the past quarter of a century. Every American communications satellite has been heavily subsidized by the public. If HBO had had to pay the true cost of developing and deploying the technology that its business depends on, an individual HBO subscription might cost—who knows?—\$100,000 a month. Earth-station owners argue that it is the programming suppliers who are being naive. The owners see television from space as the first real return on their substantial investment in astronauts and rockets. They say they don't mind if the programmers scramble, so long as back-yard earth-station owners are given some means of decoding, and paying for, the services they want to watch.

Early last fall sentiments like these led Senator Barry

Goldwater and Albert Gore, Jr., then in the House, to introduce legislation favorable to back-yard earth-station owners and manufacturers. Both politicians saw satellite television as a juicy populist issue. Home satellite TV, Goldwater said, "originated in rural America and it has been carried along primarily by many small manufacturers and dealers willing to risk financing a completely new and untested venture."

The earth-station issue touches many irresistible political themes: farming, entrepreneurship, high technology, every American's God-given right to watch the Super Bowl at home. Key points from the Goldwater and Gore bills had been added to the Cable Communications Policy Act of 1984—the bill that said, in effect, that HBO had to stop complaining about back-yard earth stations unless it either scrambled its signal or set up a marketing system. SPACE was in certain respects pleased, because the law had made dishes "legal," and in certain respects upset, because the law hadn't made direct marketing a mandatory adjunct to scrambling.

IT IS POSSIBLE THAT HBO WAS NOT ENTIRELY HAPPY about the way things turned out. The company had spent approximately \$10 million on the development of scrambling technology (including one expensive system that was obsolete for its intended purpose by the time decoders could be built). The money spent on scrambling can't really be considered an investment, because it won't bring the company much new business: most dish owners don't live in cable-serviced areas, and those who do aren't going to sign up for cable simply in order to keep HBO in addition to the fifty or sixty services they receive in the clear. Several satellite-industry observers I talked to in Dallas said they thought that if HBO were starting all over again, it might let somebody else make the first move.

In its press releases HBO has consistently claimed that scrambling is intended to prevent its signals from being received "by owners of backyard satellite antennas." But that isn't really the case. Much of the pressure for scrambling has come from cable operators, who are worried less about hobbyists than about owners of hotels, apartment buildings, and condominiums who intercept satellite signals and sell television services to residents without paying anything for the privilege. This sort of unauthorized reception for commercial purposes has always been illegal, but pursuing violators in the courts has been difficult and expensive.

Shortly after the show at the Loews Anatole, I paid a visit to HBO's Communications Center, in Hauppauge, Long Island. The center is HBO's "uplink"—in satellite lingo a facility used to beam signals up to the Clarke Belt (receiving stations are called downlinks). Out in back were four eleven-meter dishes that looked like the sort of equipment one might use to incinerate enemy aircraft. In the basement were about a hundred M/A-COM Video-Cipher 2 decoders, which were being tested. Stacked

eight or ten high in black metal racks, they looked like stereo receivers.

Many of the people who had been at the Loews Anatole would have been quite surprised to see that these decoders actually existed, having convinced themselves that they were a figment of HBO's imagination. But the boxes were real, and the tests were progressing satisfactorily. M/A-COM began shipping decoders to cable operators in January. If everything goes according to plan, all of HBO's programming will be scrambled by fall.

Not long before the first decoders were shipped, Showtime, HBO's principal rival, announced that it also intended to use the M/A-COM system to scramble its signal. This made earth-station owners simultaneously depressed and optimistic: they were depressed because another popular service was planning to "go dark"; they were optimistic because individual marketing now seemed somewhat more likely. If several services could agree to use the same encrypting system, dealing directly with the back-yard market might begin to look feasible. A dish owner could subscribe, through some third party, to half a dozen satellite services and receive a single decoder to unscramble them all.

If such a marketing system is ever established, it will almost certainly amount to a death sentence for Direct Broadcast Satellite (DBS) television. DBS is the system under which several companies plan to use high-powered satellites to transmit original programming directly to subscribers equipped with small dishes. DBS was conceived early in the satellite-television era, when equipment was still primitive and dishes had to be large in order to pick up acceptable signals from the low-powered satellites then in existence. The belief at the time was that the only way to make dishes smaller and cheaper, and thus attractive to a large market, was to build bigger, more powerful satellites. Guided by this belief, the Satellite Television Corporation (STC) signed a \$113 million contract with RCA in 1982 for two high-powered satellites, to be delivered in 1986. Each of these satellites will divide 200 watts of power among just six transponders. (*Westar 5*, by contrast, uses the same total wattage to power twenty-four transponders.) In 1984 three other companies ordered similar birds.

Exactly what these satellites will eventually be used for is now in doubt. Recent improvements in earth-station technology have made it possible for small, cheap dishes to pick up clear signals from old-fashioned low-powered satellites, rendering the big birds fairly irrelevant. In November of 1984 Communications Satellite Corporation (COMSAT), STC's parent company, announced that it had "significantly restructured its approach" to DBS and that it was essentially dissolving STC. The December, 1984, issue of *DBS News*, an industry newsletter, commented somewhat hopefully that "DBS is not an enterprise for the impatient."

All of this is enough to make one marvel at the sleek efficiency of that old-fashioned mechanism for underwriting television: commercials. Yikes!

KENNETH SCHAFER SAID, "THERE ARE TWO HUNDRED and sixty-six million people in Russia watching this, and only, let's see, two, three, four, five"—he was counting the people in the room—"six people in America." This was an exaggeration, of course; most of the people in Russia were asleep.

We were huddled around a television set in a cramped room at Columbia University's W. Averell Harriman Institute for Advanced Study of the Soviet Union, watching the test pattern of Program I, the principal Soviet domestic television network. "This is the most beautiful test pattern in the world," Schaffer said, as pleased as if he had created it himself. We were watching it live, by satellite.

Soon the test pattern was replaced by the face of a clock, which ticked down the last few minutes to show time. It was three minutes before four o'clock in the afternoon in New York, which meant that it was almost eight in the morning on the shores of the Sea of Okhotsk, where Program I's broadcast day was about to begin. (Several more hours would pass before the network came on in Moscow, where it was almost midnight. The Soviet Union extends across eleven of the world's twenty-four time zones.) The clock gave way to a fluttering red flag, and it was time for the news. The graduate students at Columbia call this show *Good Morning, Siberia*.

Tuning in to Program I in the United States is extremely complicated. Soviet television is technically quite different from American television, and you can't watch both with the same equipment. Furthermore, Program I isn't carried by a Clarke Belt bird. It's transmitted by four non-geosynchronous satellites, called Molniya 3s, which are spaced ninety degrees apart in a highly elliptical polar orbit. Every few hours Program I goes off the air for a few minutes so that Russian downlink operators can shift their forty-foot dishes from the Molniya that is fading out to the Molniya that is fading in.

This seemingly clunky system actually has many advantages for the Russians. Nearly a quarter of the Soviet Union is so far north that it can't be "seen" by a Clarke Belt satellite: the curve of the earth gets in the way, even from 22,300 miles up. A Molniya, by contrast, can see virtually all of the Northern Hemisphere from the highest point in its orbit. This orbit is also less expensive to achieve than a geosynchronous one. The Soviet practice has been to launch lots of big, cut-rate, rattletrap satellites and replace them as they fall apart. That usually doesn't take very long. The Russians have orbited about a hundred Molnias in the twenty years they've been using them to transmit television.

The Molniya orbit looks very strange on a map. Its perigee, or lowest point, is just 600 kilometers above a spot in the Southern Hemisphere, and its apogee, or highest point, is more than 40,000 kilometers above Hudson Bay. (Because each Molniya satellite takes twelve hours to travel around the earth—half the time it takes the earth to turn on its axis—it actually makes two loops each day. Twelve hours after the Hudson Bay apogee it reaches an-

other one, over central Siberia. Only the Hudson Bay apogee is used for television transmission; the Soviets use the Siberian one for voice and data transmission.)

As a Molniya approaches its apogee, its apparent motion in relation to the earth decreases, just as a distant airplane seems to move more slowly than a near one flying at the same speed. During this portion of its orbit the Molniya appears from the ground to be almost stationary for several hours, making it easy to aim at. Arthur C. Clarke refers to the Molniya orbit, affectionately, as "the Anti-Clarke Belt."

Despite the considerable peculiarities of the Russian system Western satellite hobbyists began picking up bits and pieces of Programma I in 1979. Invariably some crucial elements of the transmission would be missing—the color and the sound, for example. But it was genuine domestic Russian TV, the same thing that average Soviet citizens were watching, and it was live.

Early in the 1980s Kenny Schaffer began to think he might be able to build a system that would pick up more

than fragments of Programma I. Schaffer, a chain-smoking former rock-and-roll publicist (for Alice Cooper, among others), was recently described by *Electronics Week* magazine as an "inventor and philosopher of science." He has dark curly hair, a Groucho Marx moustache, a manic verbal delivery, and 1,500 hours of unreleased Jimi Hendrix tapes, which he acquired while working on a posthumous Hendrix album. Schaffer is a sort of aging hippie entrepreneur whose principal remaining link to the Woodstock era is a tendency to forget to patent his inventions. These include the first workable wireless microphone and the first wireless electric guitar, which he developed in 1977. His customers—before other manufacturers learned to duplicate his unprotected transmitter and receiver—included not only the Rolling Stones, Kiss, the Electric Light Orchestra, and Pink Floyd, but also Bell Laboratories, the Jet Propulsion Laboratory, and NASA, which used his technology to improve space communications.

By 1983 Schaffer figured he had just about licked the Molniya problem. Despite the objections of his landlady,

FAST BREAK

(In Memory of Dennis Turner, 1946–1984)

A hook shot kisses the rim and
hangs there, helplessly, but doesn't drop

and for once our gangly starting center
boxes out his man and times his jump

perfectly, gathering the orange leather
from the air like a cherished possession

and spinning around to throw a strike
to the outlet who is already shoveling

an underhand pass toward the other guard
scissoring past a flat-footed defender

who looks stunned and nailed to the floor
in the wrong direction, turning to catch sight

of a high, gliding dribble and a man
letting the play develop in front of him

in slow motion, almost exactly
like a coach's drawing on the blackboard,

both forwards racing down the court
the way that forwards should, fanning out

and filling the lanes in tandem, moving
together as brothers passing the ball

between them without a dribble, without
a single bounce hitting the hardwood

until the guard finally lunges out
and commits to the wrong man

while the power-forward explodes past them
in a fury, taking the ball into the air

by himself now and laying it gently
against the glass for a layup,

but losing his balance in the process,
inexplicably falling, hitting the floor

with a wild, headlong motion
for the game he loved like a country

and swiveling back to see an orange blur
floating perfectly through the net.

—Edward Hirsch

he was picking up Programma I with a rudimentary tracking antenna mounted on the roof of his apartment building. He began trying to persuade several large universities to hire him to build full-scale systems for them. But the universities were skeptical; most engineering professors didn't believe that he could do what he said he could, and Sovietology professors weren't interested. In the end only Columbia took a chance on him.

Columbia's system, which Schaffer installed last fall, consists of a sixteen-foot dish, an Apple computer programmed to track the satellites automatically, a commercial microwave receiver, a modified French-format Sony television monitor, Schaffer's (patented) "d-Cyberia" audio decoder, a modified video-cassette recorder, and several other pieces of customized equipment. Soviet television has better color and higher resolution than American television. When Schaffer first turned on the monitor for a test, Jonathan Sanders, the assistant director of the Harriman Institute, was flabbergasted: the picture was better than the one he was used to seeing on his own TV.

On the Siberian news the day I stopped by Columbia someone was addressing the Supreme Soviet. Like most Russian orators, this man rumbled along soporifically, seldom lifting his eyes from his text. It began to seem possible that his speech would last until the end of time. The camera occasionally cut to the audience, whose members were solemn and heavy-lidded; all they had to keep them awake was the prospect of voting unanimously in favor of whatever it was that was being said. Later there was a report on the disaster at the Union Carbide plant in India. (American misdeeds and misfortunes receive thorough coverage on the Russian news. Both the New York nurses' strike and the San Diego McDonald's massacre had gotten lots of air time, according to one of the graduate students present. The Union Carbide coverage, though, was very understated; the footage wasn't nearly so graphic as that which the American networks had shown the night before. There were no grieving parents, no dead bodies, no funeral pyres.) The newscast ended with the weather lady: -17, -22, -9, -14, 15, 19, -3, -5, -1, -6. If for no other reason than that, it was nice to be an American that day.

Programma I doesn't have a rigid schedule. The news ends when the newsreaders run out of news to read. On some days they finish in ten or fifteen minutes; on others they go on for more than an hour. After the credits had rolled, we moved on to the morning exercise show, a great favorite at the Harriman Institute. A muscular man and woman grimly marched in place, to the accompaniment of a piano. Their expressions were sober and ideologically correct, although both occasionally permitted themselves small smiles. The graduate students knew the exercises by heart: "This is the duck dance." If Jane Fonda and Richard Simmons had suddenly walked onto the set, all four exercisers would have vanished in a flash, matter and anti-matter colliding.

At last it was time for what the students call *Million-Ruble Movie*. That day's offering was the second half of a Lith-

uanian suspense film, *Collision*. As in virtually all Soviet movies, the colors were muted and earthy—no bright reds or blues, no razzle-dazzle. But the cinematography was skillful and really quite beautiful. After about fifteen minutes, though, the film suddenly stopped, cutting off one of the actors in mid-word. Was something wrong? No. DEAR COMRADES, said a sign on the screen, WE DECLARE A TEN-MINUTE TECHNICAL BREAK. The sound track switched to loud, fast music, with lots of ringing bells. It was meant to wake up the Siberian downlink operators, who have to stop snoozing long enough to move those big antennas.

A few minutes later the movie came back on (the picture was sharper—the first *Molniya* had been ailing) and the actor finished his word. *Collision* is set in a hospital. Several doctors were walking around in surgical gowns. They looked just like American doctors, with one peculiar difference: their noses stuck out over the tops of their surgical masks. The graduate students have noticed this in other films.

The students at the Harriman Institute have picked up a lot of interesting trivia about the Soviet Union by watching Programma I. A few weeks before my visit they had discovered that Russian drivers keep their windshield wipers in their glove compartments. When it starts to rain, the drivers pull over and attach the wipers. When the rain stops, they pull over again and remove them. It seems that a rubber shortage a number of years ago prompted someone to steal wipers from someone else, who then stole some from someone else, and so on, until windshield wipers in glove compartments became part of Russia's cultural heritage. The students have also learned that people and wheat almost never appear together on the Russian television screen. Wheat doesn't grow very tall in the Soviet Union, and in order to play down this fact the wheat harvest is usually filmed with no recognizable reference point (a day seldom passes on Programma I without a story about wheat or tractors or both). The camera is held down close to the ground, to make the field look like a forest. Harvesting equipment is shown only from a great distance. But every now and then, the Harriman students said, you can see a farmer standing in the background, the amber waves of grain lapping at his knees.

Later on we watched a *Nova*-like documentary about a brave new technological breakthrough. In an apartment complex in Moscow, the narrator explained, an elite group of scientists was conducting an exciting experiment. The camera focused on a control box mounted on a wall. Then it followed some wires down into the basement. Then there was an interview with an expert in a white lab coat. The documentary, it turned out, was about automatic heat control. Thermostats, comrades! Still later we watched another scientific program, a popular series whose name means, roughly, *Believe It or Not* (a literal translation, one student said, would be *Obvious and Unbelievable*). That episode concerned an ancient scientist whose name was recognized by no one in the room. He was slumped in

a chair. "He has one book on his table always," intoned the narrator. "*Faust*." The camera regarded him protractedly, as though waiting for his last words. The show was completely believable and incredibly boring.

But ours was a privileged tedium; we were the only people in America watching live Programma I. This wouldn't be true for long. Schaffer was holding discussions with other potential customers, including several universities, the United States Information Agency, the Defense Department, and the Soviet Embassy ("Everybody wants to watch hometown telly," Schaffer said). And he was planning to take his show on the road. He had rigged up a Molniya tracking system on a trailer and was offering colleges the chance to book an evening of live Russian TV. He was also planning an even more ambitious international-television project: a system that will pick up live transmissions from fifteen countries simultaneously and display them on a bank of monitors arranged in a semicircle. A viewer will be able to stand in the middle and watch the world.

"It's rock-and-roll," Schaffer had told me earlier in the day. "It's electronics, it's media, it's peace. I don't care about 'peace' peace; that's a software concept. I'm just talking about having the opportunity for an error." Like many Schaffer pronouncements, that one was fairly cryptic. (After a certain point in our lengthy interview, which I nonetheless enjoyed enormously, I stopped changing the tape in my recorder and simply turned the same cassette over and over.) But I know more or less what he meant. He sees satellite television as an instrument for global understanding. ("I have to pay back for Alice Cooper.") No country, not even the Soviet Union, can seem entirely foreign once you've gotten to know its weather lady. This is why Schaffer is eager to sell his tracking system to the Defense Department. Even if military planners start out thinking of their dish as nothing more than a piece of spy equipment, he says, in time they'll learn what the students at the Harriman Institute have learned: that life in the Soviet Union, though different from life in America, is still life. Schaffer doesn't ask that the planners forget about the missiles in Russian submarines. But the world would be a safer place, he believes, if every once in a while they would also think about the windshield wipers in Russian glove compartments.

ARTHUR C. CLARKE LIVES IN SRI LANKA. HE PUT A DISH in his yard in 1975, but it blew over. This wasn't a big loss. There hadn't been anything to watch except one channel of Indian television, which had been devoted mostly to Indira Gandhi. By 1983, though, the programming available on satellite had improved, and Robert Cooper, the publisher of *Coop's Satellite Digest*, got to thinking that the man who had conceived of satellite television ought to be able to watch it. So he organized an expedition to put a new dish in Clarke's yard.

Clarke is a mystical presence in the world of satellite TV. "There are these gravity wells around the planet," John Zelenka, one of the people who went along on Cooper's expedition, told me. "There are some places over the equator where the earth's gravity is so strong that satellites placed there don't need fuel, because they never drift out of position. It turns out that one of the most stable places on the planet is directly above the piece of property that Arthur bought in Sri Lanka. It makes you wonder where this man came from."

Zelenka works for a New York company called Star Video, which, among other things, installs commercial antenna systems and provides uplinks and downlinks for business teleconferences. He has green-and-purple-tinted glasses and a gold earring. Like Kenny Schaffer, he came to satellite television from the world of rock-and-roll. He was a guitarist and a sound technician before he installed his first dish, for the publisher Nelson Doubleday. The Doubleday installation was touch and go. Zelenka didn't quite know what he was doing. He'd never actually seen a dish before Doubleday's arrived. But finally he figured that he had everything right, and he went inside to test the system. He turned on the television set. There was static, then a picture. It was *2001: A Space Odyssey*, the Stanley Kubrick movie based on a story by Arthur C. Clarke.

"It seems likely that the twenty-four-hour orbit will be of fundamental importance for the future of world communications," Clarke wrote in 1956. It's astonishing to think that until very recently "variety" on American television consisted of three indistinguishable networks broadcasting three indistinguishable schedules. Satellite-fed cable TV has often been criticized for failing to live up to expectations: most of the new channels, people complain, aren't all that interesting. But in comparison with what was available before, the line-up these days is dramatically various. Gavel-to-gavel coverage of Congress, news around the clock, the weather, rock-and-roll, most of Boston College's 1984 football schedule, *Futbol Internacional*, life aboard the space shuttle, Japanese variety shows, the New York Stock Exchange ticker, recent movies, *The Brady Bunch*, naked women. None of it is terribly profound, but neither is most of life.

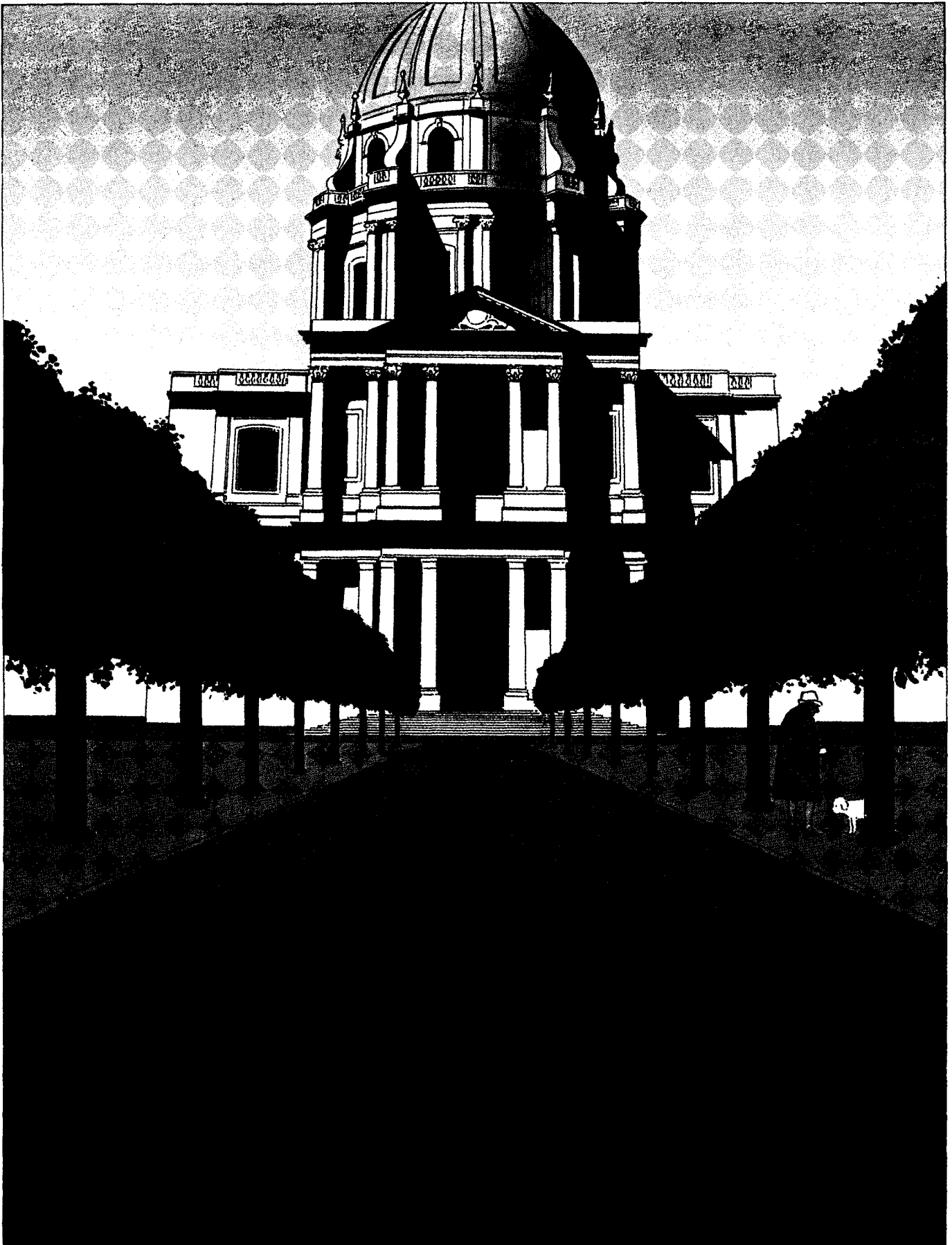
Watching satellite television probably won't be as much fun in the future as it has been over the past few years. Probably all the premium services will eventually scramble their signals, and the networks will probably scramble most of their feeds. No more Max Robinsons. But maybe someday a cable system will follow Kenny Schaffer's suggestion and offer Programma I to American viewers. Or maybe Mexican television will catch on in Canada. Satellite television has made the world a little cozier; the globe is shrinking under the Clarke Belt.

"I'm totally sold on Arthur," Zelenka says. "Communications satellites have made space a place."

Splace. □

STYLE

BY GUY BILLOUT





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A Short Story



DANCING WITH FATHER

BY CANDACE FLYNT

EVEN AFTER AN ABSENCE OF THREE SEASONS WE ARE recognized as we return to The Homestead, that welcoming resort in the Virginia mountains. "We" meaning my father and me; my husband is making his first trip here. Rusty opens the trunk while Daddy and I alight to proffered hands. My father moves with alacrity, wanting, I'm sure, to appear as he always has: quick, vital, embracing, never daunted by the trials of this existence.

"Welcome back to The Homestead, Miz Vannoppen, Mistah Vannoppen, sir," the doorman says. I recognize his ancient yet unlined black face but cannot recall his name. My father can.

"It's good to be here, Guilford." My father smiles his careful smile. He is hoping, I suspect, that Guilford will not ask him about Mrs. Vannoppen. I know Guilford won't.

Guilford does not have superhuman powers, only a good memory for an unusual last name, and he probably checks the list of expected arrivals every day. Still, until my mother's death, three years ago, we came to The Homestead the first weekend in June for nineteen years, ever since I was four and my sisters, Judith and Louise, were three and one. We probably deserve to be recognized.

We've had a subdued drive up from North Carolina. Although there's been plenty of conversation, the gaiety that always accompanied our trips has been absent. We've talked about our golf games, about the Upper Cascades course, which for the first time my father doesn't want to play ("Too hilly," he comments), about the Lower Cascades course ("Too easy and too buggy"), and about the Homestead course, which we will probably play every day. We did not, as we always had, *ooh* and *ahh* over the castlelike Hotel Roanoke when we passed it, an hour back; nor did we become quiet over the poverty in Clifton Forge, or even gag over the paper-mill smell in Covington, as, when Mother was here, we had done ritualistically.

We didn't want to talk about anything we used to talk about.

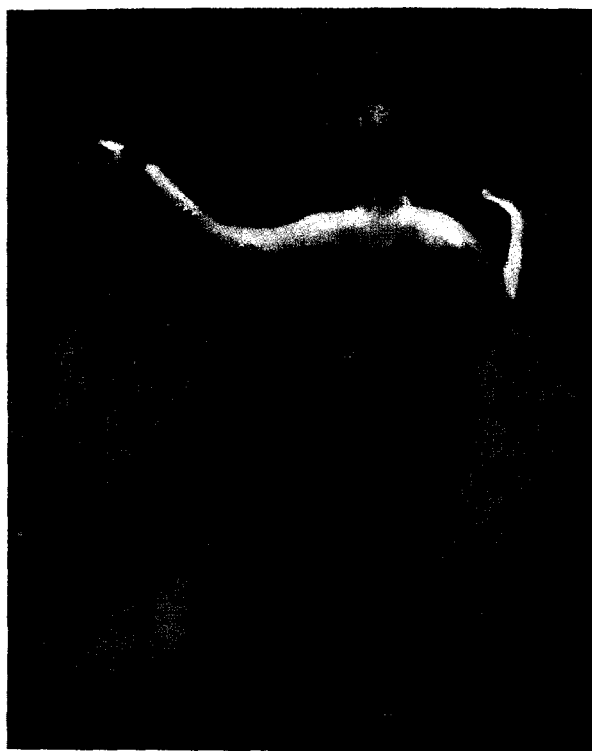
"This is a one-time experiment," my father had cautioned, when he called to say he wanted to take the family—minus grandchildren—back to The Homestead. "Not to relive old times," he continued. "Not that. I want to go there as if we've never been there before."

I thought of suggesting another place, perhaps the nearby Greenbrier, where we would not be weighed down by nineteen years of memories, but I did not.

Father has not dated anyone since Mother died, which has not bothered Judith and me though it has Louise. We want him to remarry if he wants to, but in the past year our youngest sister has become passionate about Father's finding a companion. She says he'll suffer less. She says a man like him should not be alone. I have told her that loneliness is sometimes preferable to empty togetherness, but she doesn't believe me. I'm not even sure I'm right. A few months ago I agreed to speak to him about his social life. Louise believes that because I became a lawyer, like Father, I have his ear more than she does.

"We want you to know that if you would like to go out with anyone, it's okay with us," I said to him. We were sitting across from each other in the study where all the conferences I'd ever had with him had taken place. This was the first time *he* had been the subject. "We want you to be happy." He listened with the glimmer of amusement I've seen in the eyes of someone who will listen to you, who will even consider what you're saying, but who believes you don't know what you're talking about.

His answer was quiet but impassioned. "Your mother and I had something extraordinary," he said, his eyes focusing on his folded hands. "You probably know that." I nodded, even though he wasn't watching. "She was a rare, magnificent woman. I could never find



1957

her equal. I would never even want to try." Then his tone lightened. "The three of you are enough women for me."

I had always known that my parents were lovers, because of a lifetime of locked doors, but I knew it more, I think, because of how they fought: so passionately, so fearlessly, so frighteningly. You can fight like that only if you are certain of your hold on the other person, if you are unafraid of the consequences of fury.

Father raised his eyes; an unexpected pleasure flooded his face. "You remind me a great deal of her," he said.

I blushed, but because my complexion is olive, he couldn't tell. He had probably said the same thing to Judith and Louise. Even though I couldn't imagine a compliment more exhilarating, I knew I was not the most like Mother. Judith was. Or maybe the truth was this: if the three of us—Judith with Mother's flair, Louise with her irony, and I with her passion, could be one person, we would probably approximate her.

Seven of us will be at The Homestead, since this year all three sisters are married. Judith and Louise live in the D.C. area and are expected to arrive with their husbands late this afternoon. Daddy, Rusty, and I will probably hike the north trail first and then have saunas or massages. Golf begins tomorrow morning, followed by lunch in the garden, mineral baths, salt glows ("Don't shave your legs beforehand," we've reminded each other since we were teenagers), and Scotch hose, the high-pressure massage that washes the salt away. One day we will take a carriage ride—Mother's least favorite activity, because it took us away from the center of things. Even naps are scheduled, from four to five, just as when Mother was in charge. Only now I know that that's when everyone makes love.

Of the entire Homestead experience, though, what we all most look forward to is dancing with Daddy. Will he dance with us? Judith asked me on the telephone last week. I said I could not imagine him not dancing.

"But won't it make him think of Mother?" she said.

"Why shouldn't he think about her?"

"Maybe he'll finally have a chance to eat his dinner."

"Maybe so."

Daddy tips Guilford and walks through the immense screen door that is held graciously for him by a green-coated bellhop. The grand hall glows yellow. The decor is familiar, no wearing of the upholstery and carpeting, but the room has the look of something aged, something comfortable, even though the paint is fresh. Fires blaze in the fireplaces, although by now the sun has finally knocked the chill off the day. We are greeted by older employees who aren't so clever as Guilford yet remember our faces.

Daddy turns from the front desk, holding up our keys as if he has achieved a sort of victory. Perhaps it is a victory for him to walk into this grand hall and not simply turn around and walk out. Perhaps it should be a victory for all of us. But I don't feel sad. I am happy thinking about my mother and all that she taught me.

DADDY STOPS THE CAR AND PUTS THE TOP DOWN just moments before we arrive at The Homestead. And Mommie turns the heat on high, because everybody in the back seat is so cold. It's June, school's out, but this is the mountains. It's so cold, Daddy says, because we are at a higher elevation. At higher elevations the air is colder because it's thinner. "Why is thin air cold?" I ask, when he leans over me to unzip the plastic window, but he doesn't know the answer.

Daddy says, "This is silly," but Mommie says, "No, it isn't. This is fun. Do you want to look like everyone else?"

Around her neck Mommie wraps a thin white scarf, which trickles behind her in the wind. She tells us to sit up like ladies. We are all huddled on the floor because the wind is so cold. "It's summer," she commands. She cranes her neck over the seat to see us. Her tone suddenly becomes conciliatory, the only tone that we are honor-bound to obey. "If I *ask* you to do something for me," she has told all three of us hundreds of times, "you are required to obey me. If I scream at you in anger, you are entitled to resist. Sit up," she says kindly. "For five minutes. Do it for me."

We sit almost eagerly. At times we each, even the baby, would do anything in our limited power to please her.

We are dressed in dotted swiss. Just before we left home, our shoulder-length hair was barretted back and twisted by Mommie into long curls, her curling iron held the way a teacher holds a ruler. We wear ruffled socks, ruffled panties, and black patent-leather shoes. As a special treat for me, the oldest, Mommie has applied a touch of her rouge to my cheeks. When Judith asked for rouge too, Mommie said rouge was allowed only after you were six. Then, to make Judith feel better, she said: "Katherine's complexion is olive. It needs rouge. You already have rosy cheeks." Judith was not satisfied, and I went to the mirror to look at my olive skin, with which from that moment on, I knew, I would never be happy. Fortunately, though, now I was old enough to color it.

So that we won't miss lunch, Daddy sends our bags up to our adjoining rooms, and we hurry to the garden. Mommie selects a table and sits with Louise in her lap while Daddy takes us to the buffet. Judith heads for the great round dessert table, where a smiling, pudgy woman stands ready to help us build our own chocolate sundaes. In a stern voice Daddy calls Judith back to the vast array of hot and cold foods. She starts down the line without making any selections.

"Judith," I call, angrily. Since I am the oldest, I try to help Daddy. He leans down and whispers in my ear that he will handle her. Mommie would have pinched me. Daddy's sharp fragrance lingers in my head even after he has walked down the line and drawn Judith and her tray back to the beginning.

With guidance we both select a meager amount of food and join Mommie and Louise. We have been away from them for what seems hours, but Mommie shows no sign of

Candace Flynt is the author of Sins of Omission, published last fall.

irritation. She stands grandly at our arrival, stationing Louise in the grass, helping Judith and me deposit our plates. Daddy returns to the line to fill his own plate, and Mommie instructs us to think carefully about our manners as we eat. "Decide on one particular bad manner that for this meal you won't commit," she says. "If you commit others, that's all right. Just don't commit that one bad one." She smiles an arch, encompassing smile that always seems to take in the world; it is caring and yet removed from us, as if to say to anyone who might be watching that she is more than a mother. Of course, we know this, Judith and I. We know that our mother is different from every other mother. But we don't quite know in what way.

"Enjoy yourselves, little darlings," she says, softly but with resonance. This means we may start eating. My father walks up behind her with his plate and leans so that his cheek is within an inch of her own.

"You *know* you're beautiful, don't you?" he whispers. He often tells us that we are beautiful too, not in front of everybody, the way he tells Mommie, but privately, as if it's a secret. I keep my secret but Judith doesn't. She always reports to me, "Daddy told me *I'm* beautiful," as if only one of us could be. I think of my olive complexion and how grateful I am that there is such a thing as rouge. And that Mommie will let me wear it even though I am only six.

"Do I look smug?" Mommie asks, her face turning dark.

"I was only kidding," he says, taking his chair, which is close to hers. Her petulance settles over the table. "It was a new way of saying how beautiful I think you are."

"It *sounds* like a new way to hurt my feelings," she says.

The three of us chew, looking at our plates, waiting for the moment to either pass or erupt. It passes.

WE ARE NOT HAVING "SUPPER," MOMMIE TELLS Louise; we are dining in the main ballroom of one of the loveliest resorts in the world. "Can you say that?"

Louise, long acquainted with mimicry, says, "We are dining in the main ballroom of one of the loveliest resorts in the world." Since we have been bickering this afternoon about who is going to sleep on the rollaway, Mommie makes us draw straws. Judith loses and throws herself onto the rollaway. Mommie commands her to get up before she wrinkles her dress. We are wearing our blue velvet party

dresses tonight. Mommie has put my rouge on carefully, more carefully than she did for the trip here. The closet doors are faced with mirrors, and she lines us up before them, telling us to hold back our shoulders, which each of us does to the extreme. "Never mind that," she says. "But do hold up your chins. Just a little higher than level. That's the prim look a young lady wants at night."

Mommie winds her hair on top of her head, securing it with so many bobby pins that finally Louise begins to complain she's hungry, although we had tea and cookies in the parlor only an hour ago. She is tired of waiting. Mommie pats her hair "finished" and summons Daddy by his name, Max, instead of the usual "darling." His whole name is Maximilian, but I don't think anyone except me thinks of him that way. She gathers us around her like puppies, and we smile even before the approval shows in his eyes. He

has on his white dinner jacket, with buttons that glitter like jewels. His black hair is as shiny as the ribbons down the legs of his trousers. He is handsome, handsome. And we are beautiful, though this time he has used the word *exquisite*.

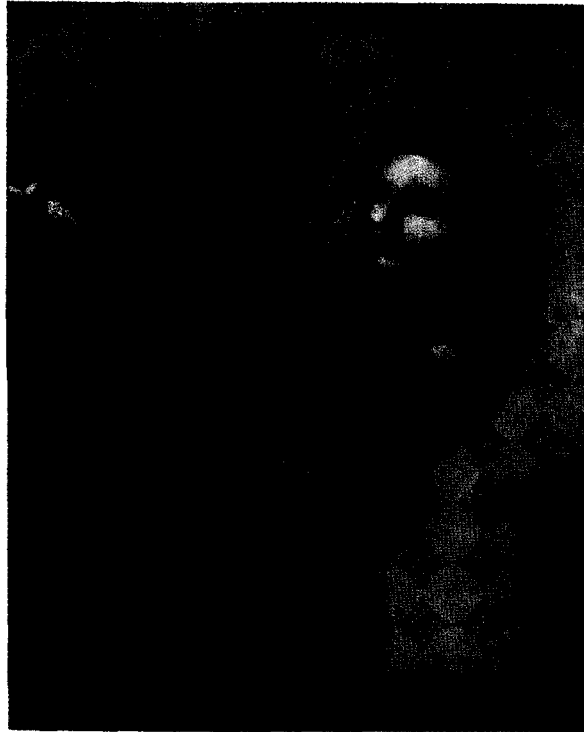
We will learn poise by leading rather than by following, so the three of us are urged down the stairs ahead of our parents. My patent-leather shoes are slick on the carpet, and I take hold of the banister. In single file Judith and Louise do the same. Louise keeps looking to see if Mommie and Daddy are coming, and Mommie keeps admonishing her to look where she is going and to hold up her chin. At the foot of the stairs Mommie gently directs me, "To your left, darling." I re-

member which is my left hand and move in that direction. Judith moves abreast of me, either unwilling for me to have all the glory or unwilling to walk with the baby.

My father greets the maitre d' and says that he would like the same table we have had in years past—at the center edge of the dance floor.

"Oh, yes," the khaki-skinned man says. Later my father explains to me that there are ways of making people remember you. One of them is to be accompanied by an exquisite wife and three exquisite daughters. But he also tells me about the other way.

After we eat our dinner, Mommie arranges us in a corner of the dance floor, where we sidestep as a threesome while she and Daddy dance. When it is our turn to dance with him, she sits at the table with two of us while Daddy takes the third out on the floor. We watch while she describes how one dances. We are to be supple, not limp in Daddy's



arms. "Like spaghetti that's not done," she says. We are to let him lead. "Step toward him if you feel his hand pulling you forward. Step back if he nudges you that way. To the right or to the left according to the way his palm rocks in the center of your back." But the best part of dancing was something that Mommie never got to do. It was when Daddy picked me up and swung me around so that my legs had no *choice* but to go limp. And when I said Ouch, Daddy, because his rough whiskers scraped my cheek. It was the kind of hurt that I found myself wanting again.

1967

"**W**HAT A SHOW-OFF," I SAY TO MOTHER AND Louise, as we watch Judith throw back her head in a sort of wild gaiety, revealing the soap-white skin of her long, graceful neck. She is dancing with Father, who has nearly stopped moving in order to applaud her exaggerated rumba. Of the three of us she most resembles Mother, with her self-aware beauty, her long, perfect legs, her willingness to display herself in those spontaneous poses men seem so to appreciate. Before my comment Mother's eyes were lit with vicarious pleasure, as if she were watching herself in a mirror. She does not keep it a secret that Judith is the one of us whom physically she most enjoys. But she enjoys talking most with me, and she enjoys laughing with Louise.

I would not want to have to follow Judith's act, something Mother has instinctively realized, so she has rearranged the order of the dancing partners. As the oldest, I now dance with Father first, followed by Louise, then Judith, and finally Mother. But perhaps after this year's visit to The Homestead, Mother will dance with Daddy ahead of Judith. By now they have danced so many years together that no room is left for the unexpected. They move as intricately as the cogs of a fine watch: seeing them provides us with pleasure but no thrill.

An entire table of silver-headed pediatricians and pediatricians' wives from Chattanooga, whom we met earlier, turn as Judith leads Daddy off the floor. The wives offer askance looks, as if being wholehearted were somehow wrong, but the doctors smile in appreciation. At various tables around the room sit young men who are also watching us. None of us was asked to dance last night, our first of the holiday, but Daddy has predicted we will hardly have time to eat tonight. Already one of the doctors has danced with our mother. The same man, I notice, has pushed back his chair and will evidently approach our table again. It's time for Mother and Father to dance, I think protectively, trying to send the doctor that message by telepathy. Mother smiles in welcome, always appreciative of the attention of attractive men. This doctor has eyebrows so black that they might be dyed. I wonder if he knows why some of his hair has changed color and some has not. Or even why hair changes color.

The doctor has come not for Mother but for Judith. Daddy fills the awkward moment—Mother has begun to

rise—standing so quickly that he is on his feet before she is.

"My beautiful daughter," Mother says graciously, as if Judith were a sort of gift. She is not as embarrassed as Father thought she might be.

"Our beautiful *daughters*," Daddy says. The remark succeeds in encouraging the man to dance eventually with each of us. Judith smiles coolly. She has been noticing a pink-cheeked young man in a not entirely appropriate sports jacket and hopes he will summon the courage to invite her to dance. She does not look at the pediatrician as they step onto the floor, but suddenly, as the band strikes up a fast tune, she comes alive. She has realized, as I could have told her, that she has another perfect opportunity to show off.

When the doctor finally dances with me, I ask him about his eyebrows. Judith made dancing with him look easy, but, unlike Daddy, the doctor has a rather ineffectual lead that keeps me continually off-balance.

"Do you dye your eyebrows?" I say.

"Of course not." He seems insulted by my brashness, although our family brashness is what attracted him in the first place. He proceeds to ask me proper questions about what I am going to do with my life. "Something meaningful, but I'm not sure what" is my answer.

When the doctor finishes dancing with me, he dances one more time with Mother—out of a sense of honor, I suppose. It occurs to me to ask him about age and stamina, because by this time I have finished the glass of wine Mother allows me and I am feeling resentful that he danced with both my sisters before he danced with me.

Now that we are apparently available, the young men descend, and each of us dances until the band packs up its instruments. We know we will not be allowed to remain behind and talk to the young men we have met, although if we were dating at home, we would have been allowed to remain in our den until midnight. Mother believes that the unknown offers more temptation than the known, and what she means by that is the temptation of hotel rooms.

1977

IRONICALLY, WE HAVE ALL MARRIED MEN WHO DO NOT like to dance. They would like it if they tried, Judith, Louise, and I are all certain, but our husbands are self-made men who were not exposed, as we were, to such things as ballroom dancing. My husband, Rusty, comes closest to being a dancer, because he will at least venture out on the floor, but it is not exactly exhilarating to two-step through a waltz.

"Must all three of us count entirely on Father?" Judith asks, her eyes rolling in what is a teasing mockery of the three husbands, who seem glued to their seats. The band has played two numbers, and none of the men has suggested dancing, although Judith, with her swaying body and her tapping fingers, has certainly announced her inclination. None of us is too timid to suggest a dance, but we

would much prefer to be asked. Privately, to me, Judith has promised to ask men at surrounding tables if Jimmy refuses to dance with her. I have asked her, for Father's sake, not to cause a scene. Of the three husbands, Jimmy is the least likely to tolerate having his wife dance with another man. Dancing, we grew up believing, is recreational, not sexual, but none of our husbands views it that way.

Father has not gotten to his feet either, although I believe that it's because he prefers not to overshadow our husbands. Our mother never exhibited such generosity. Each of the men we are married to is attractive in his own way—Rusty, whose large, athletic build and glad face seem so solid; Jimmy, whose face offers a cultivated yet interesting detachment; and Rod, whose baby-blue eyes and boyish face so perfectly match *our* baby, Louise. But none approaches that unusual combination of sensuality and civility, male beauty and style, that has always made Father such an overwhelming presence for all of us, Judith and me in particular. Perhaps our husbands are simply too young. We are not yet our mother either.

"Dance, Daddy?" Judith says.

BEFORE LOUISE AND JUDITH AND THEIR HUSBANDS arrived, Father and I hiked the north trail this afternoon, leaving Rusty on the putting green. We talked about my work and his, and about the beauty and staying power of The Homestead. Finally, when he allowed a pause, I asked him if being here made him sad. He said, "Sad and happy."

Although Father does not rise immediately at Judith's invitation—he is actually eating his smoked-salmon hors d'oeuvre—I notice a positive change in his expression. Life goes on, I think, but the idea gives me an unexpectedly dismal feeling. Are any losses insurmountable? Is life always the greatest thing?

"I'll dance with Judith," Rusty says. I have confided my fears about Judith's causing a scene and asked him to try to sidetrack her in any way he can think of. I am a more thorough orchestrator than my mother was. She liked to initiate a scene and let the participants resolve it themselves, while I prefer to control, as much as I can, from beginning to end.

"I really should dance with Katherine," Father says. "She's always first."

I remember the year that the order of dancing with him



changed, but how Mother always danced last with Father, never giving Judith that slot even the year I thought she might.

We learned the year of the pediatricians not to rise at an invitation until we were sure who was being asked to dance. Father comes to me now and takes my hand, and I rise like the first princess. I am in love with him in the fierce, pure way one can be in love with something that one can never have. I love my husband, of course, but in a steady, patient way.

We finish the fast dance that the band is playing, and Father signals for a waltz. I am wearing my beautiful tea-length gown—royal blue, to match my eyes. I feel the bristle of his cheek, unusually heavy, I think, against

my skin. Father normally shaves twice a day, but perhaps he has given up the extra effort since Mother died. I know that Judith is dancing with Rusty and that perhaps I should find her in order to exchange looks—we are, after all, happily dancing. Father is dancing. We thought he might not even want to, but he is leading me now with such gentle power that I know his heart is in it. Maybe he will grow melancholy only after he dances with Judith, when Mother does not await. Other couples have moved to the edge of the dance floor, allowing Father and me the full circumference we need. When I rise on my tiptoes, my heart rises too. I feel perfect, graceful, exquisite. I feel that all the world is watching and approving. For the first time in my life I know how much like my mother I am. Daddy does not even have to say so.

When he returns me to my seat and takes Louise's arm, I feel such an amazing sense of loss that I have to excuse myself from the table. I am not my mother in love with him. I am not even the last woman with whom he will dance. By the time I return from the ladies' room, my makeup repaired, Daddy has finished dancing with Louise and is leading Judith to the floor. I must admit that they move beautifully together, though never quite as perfectly as he and Mother did. I sit watching with Rusty, Jimmy, Rod, and Louise. I try to remind myself how unimportant dancing actually is in the larger scheme of things, but I yearn to be out there too.

Close by my ear Rusty says, "May I have this dance?" The band has picked up its tempo, playing music that he can shag to. My husband leads me to the floor. Over Judith's sequined shoulder strap my father smiles at me, a vague, wistful, unseeing smile. I am one of his three daughters. □

THE TANKS OF A GRATEFUL NATION

BY KIRKPATRICK SALE

To that forgotten genius drink
Who first learned statesmen cannot think
And so devised, with due decorum,
Tanks to do their thinking for 'em.

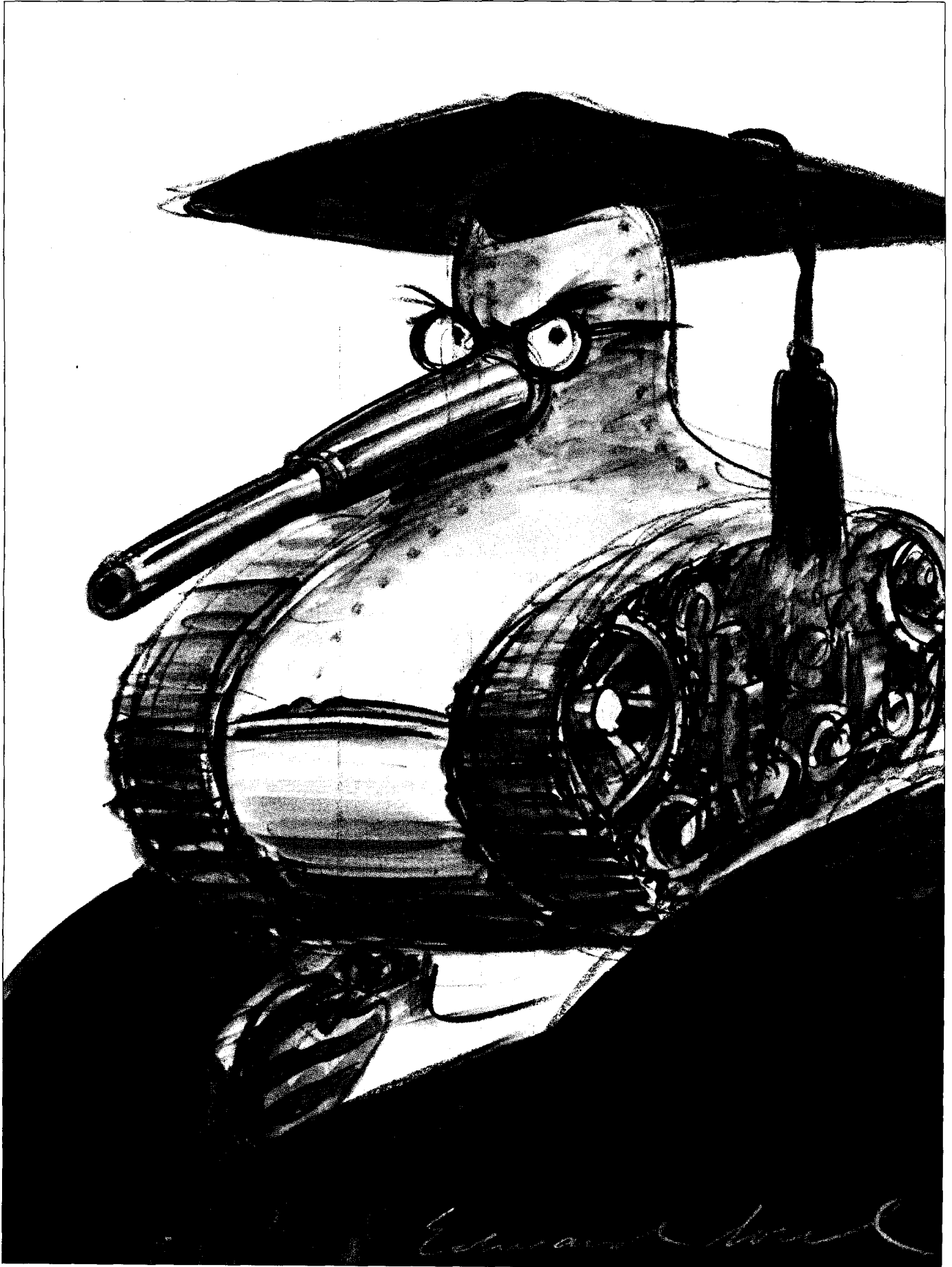
Who would have thought that from this seed
Would spring that vast reflective breed
Which now throughout the entire nation
Cogitates its cogitation,
Musing, pensive, *everywhere*,
In centers here, committees there,
In councils, funds, associations,
Labs, academies, foundations—
Stanford, Brookings Institution,
Center for Conflict Resolution,
Oak Ridge, Trust for Public Land,
Syosset, Rockford, Worldwatch, Rand,
Strategic Studies, Hudson, Cato,
Center for the Study of NATO,
Arthur Little, Livermore,
Los Alamos, and hundreds more—
Deliberating (or so they say)
The major issues of the day:
Genetics, diets, traffic laws,
The NFL, defensive wars,
Environmental degradation,
Libel, public transportation,
TV, unions, heart diseases,
What happens when the planet freezes,
Physics, nuclear and quantum—
In fact, *no* subject seems to daunt 'em;
There seems to be no theme too great
For them to grasp and contemplate,
No task from which their minds are shrinkable—
And they even think of the unthinkable.

But what I want to know is this:
Why must they speak Apocalypse,
As if catastrophe—or worse—
Already doomed the universe?

Their pay is good, their centers roomy,
Why must they be so firmly gloomy,
Sitting there in pensive ease
Concocting up calamities:
Megadeaths and overkills,
Impoverished billions, oil spills,
Wars with gases, poisons, nukes,
Or started by computer flukes,
Qaddafi loose on Staten Island,
Commies taking over Thailand,
Unemployment rates at forty,
Cheryl Tiegs grown fat and warty,
Storms destroying Ambrose Lighthouse,
Toxic wastes beneath the White House,
Acid rain in Guatemala,
Liras worth more than the dollar,
Pax America in pieces,
Extinction of the human species . . .

They can't, I know, employ their copious
Talents thinking up *utopias*—
Still, it seems a bit contrarious
Making up worst-case scenarios
Every day, however balmy,
Not a second for bonhomie,
Living breakfast-time to tea
With trouble, shock, adversity.
I can't believe they *like* somehow
To work in that despondent slough—
It must be that they see their duty
Adding to the System's beauty
By letting statesmen stay oblivious,
Concentrating on their trivias,
Thus allowing them the chance
To rule in blissful ignorance.

A toast, then, to that genius drink
Who first invented tanks that think
(And let this be his epitaph, too)
So that our statesmen wouldn't have to.



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Warning: The Surgeon General Has Determined
That Cigarette Smoking Is Dangerous to Your Health.

Unless a number of fundamental trends are soon reversed, the Baby Boomers are headed for a disastrous retirement

JUSTICE BETWEEN GENERATIONS

BY PHILLIP LONGMAN

EVERY GENERATION REQUIRES A strategy for its old age. An odd and chilling folktale that has been recited throughout Europe since the thirteenth century shows how far-reaching the repercussions of such strategies can be. "The Tale of the Ungrateful Son" begins with a description of an old merchant who day by day grows more infirm. The old man's wife has long since passed away, and he is miserably lonely. Fearing that he will soon lose his powers of mind, the old man finally decides to ask his middle-aged son and daughter-in-law if he might move in with their family, in the country.

At first the couple is overjoyed, for by way of compensation the merchant promises to bequeath his small fortune to them before he dies. But the old man in his dotage becomes increasingly troublesome to clean and feed. Eventually his daughter-in-law grows resentful of his constant needs and senile chatter. Indeed, she harangues her husband night and day, until he reluctantly agrees that the time has come to take the old man to the barn.

The ungrateful son is too embarrassed, however, to confront his father directly with his shameful decision. He gives that chore to his own youngest child.

"Take your grandfather to the barn and wrap him in the best horse blanket we have on the farm," he tells the boy. "That way the old man will be as comfortable as possible until he dies."

With tears in his eyes the child does as he is told, except that, having selected the farm's best horse blanket, he tears it in half. He uses one part to swaddle his beloved grandfather but sets the other part aside. The merchant's son is furious when he learns what his child has done. "What sort of boy are you who would put his own grandfather out in the barn to freeze with only half a horse blanket?" he shouts.

"But father," the child replies, "I am saving the other half for you."



THE AMOUNT OF HELP THAT EACH generation requires from its children may vary, but the demand for assistance in old age never vanishes. Today Social Security and Medicare are all but universal programs, with the typical recipient collecting benefits costing at least three times as much as the taxes he or she contributed. This year nearly 28 percent of all federal spending is going to the 11 percent of the population that is sixty-five and older. The budgets for all of the federal government's various retirement programs, including Medicare, are four and a half times bigger than the budgets for means-tested welfare programs.

Despite the huge cost of old-age subsidies, one hears only a modicum of complaint from taxpayers. It is easy to understand why. Not only would people in the work force, regardless of class, prefer to be relieved of direct financial responsibility for their parents, but also they themselves expect someday to take advantage of Social Security, Medicare, special tax breaks, reduced bus fares, and the like. For these reasons the majority of voters are inclined

to favor generous benefits to the old. But there may be a point at which the young say "enough" and rise up in revolt against their elders. Today's older generation need not worry; though the cost of their entitlements is extraordinarily high, it is bearable, because it's spread across an unusually large working-age population. The 75 million members of the Baby Boom generation—all those Americans born between 1946 and 1964—have good reason to fear desertion by their successors, however. Unless many fundamental trends are soon reversed, the Baby Boomers are headed for a disastrous retirement.

The long-term solvency of the Social Security system has come to depend on several broad contingencies, none of which seems very likely in the lifetime of the Baby Boom generation. Consider first how the system's pension, disability, Medicare, and other trust accounts are financed. Since the late 1950s the system as a whole has collected

just about the same amount every year as it has paid out. Because levels of revenue and expenditures vary from month to month and are difficult to predict, each trust account maintains what might be called a contingency reserve. Today these reserves are generally sufficient to cover only a few months' worth of benefits.

It has been widely predicted that over the next few decades the pension fund will grow substantially. The convergence of two demographic trends helps to explain why. First, the youngest members of the Baby Boom generation are just now entering the work force and starting to pay taxes. Second, in the early 1990s the rate of increase in the system's annual pension costs will taper off, owing to the relatively small size of the Depression-born cohort that will then be reaching retirement age. Barring another recession, these trends, in combination with a series of modest payroll-tax increases scheduled to go into effect between now and 1990, mean that by the early 1990s the pension-fund account is likely to begin to take in much more than it pays out. And it should continue to do so until the very large Baby Boom cohorts enter retirement.

Some observers have suggested that a large reserve within the pension fund will help the system meet the tremendous cost of the Baby Boom generation's retirement. Unfortunately, for the same period in which the pension fund is projected to be in surplus the Medicare trust fund is expected to incur a huge deficit. If past experience is any guide, it is quite likely that Congress will adopt the quick fix of inter-fund borrowing. Thus the reserves expected in the pension-fund account will probably be used to replenish the Medicare fund, with no means of repayment in sight.

There is another, more fundamental reason why Baby Boomers should not look to a surplus as a panacea. By law, a surplus accruing within any of Social Security's various trust accounts must be used either to offset the deficits of other trust accounts or to buy debt instruments issued or guaranteed by the United States Treasury. Almost all such transactions amount to one part of the government writing an IOU to another. Taxpayers are ultimately liable for both the principal and the interest on these IOUs—that is, for replenishing Social Security's accounts. Their ability to pay inevitably depends on the condition of the economy when the IOUs come due. Thus, in order to be of any benefit to future taxpayers, a surplus would have to be deployed in a way that made taxpayers richer in the future than they would have been otherwise. Unfortunately, although some portion of federal spending, such as that which goes to education and scientific research and development, does serve to improve future productivity, most goes solely to meet the wants of the here and now, and will in no sense benefit generations to come.

The outlook for Social Security cannot be determined by looking at the operations of its various trust accounts in

isolation. The architects of the Social Security system realized as much. For example, in 1949 the economist Eveline M. Burns, one of the prime theoreticians of the social-insurance movement, addressed the matter of surpluses in her book *The American Social Security System*:

The economic burden on any society of maintaining a large number of non-producers at some future date can be reduced in only one way: the present generation must take action to increase the productivity of future generations over what it would otherwise be. . . . The income the retired aged will enjoy in 1980 or 2000 will reduce correspondingly the current income available to the rest of the population living at that time. If the present generation wishes those living in 2000 to be no worse off than themselves, in spite of having to support a much larger proportion of non-producers, they must so add to or improve the material and human capital of that society that productivity will increase by the extent of the additional burden.

Social Security's future depends ultimately on the broad course of American society, and many variables come into play. These include the rates of mortality, disability, immigration, and emigration; the birth rate; the rates of inflation in prices and wages; the unemployment rate; trends in work-force participation, child-rearing practices, and retirement decisions. The numbers one assigns to these variables can make the system's prospects look either rosy or dire.

Recognizing how indeterminate any projection of the system's long-term financing must be, the Social Security Administration (SSA) issues four projections, which range from "optimistic" to "pessimistic." Under the most recent "II-B" intermediate forecast—the category that President Reagan's National Commission on Social Security Reform adopted for planning purposes—Medicare will slip into deficit in 1993 and its reserves will be completely depleted by 1998; the disability fund will be "exhausted" by 2034 and the pension fund by 2050. (The pension fund, of course, could go broke earlier if its reserves are used to cover deficits in the other two funds.)

To reach these less-than-reassuring conclusions, the SSA had to assume that there will be no more recessions during the next seventy-five years, that the economy will grow by two to three percent a year, and that after 1990 unemployment will not exceed six percent a year. The SSA also assumed that the birthrate will rise by at least 11 percent by the year 2010 (a reversal of the downward trend of the past two centuries) and that life expectancy at sixty-five will increase by no more than three years and nine months.

Even the SSA's most "pessimistic" model calls for the economy to perform better in the future than it actually has during the recent past. This model is based on the assumptions that inflation will not rise above 5.9 percent and that after 1990 real wages will increase by an average of 1.3 percent a year. Yet from 1973 to 1983 inflation averaged 8.2 percent and real wages actually declined by an average of 0.9 percent a year. The worst-case model also assumes that

Phillip Longman is writing a book on the subject of generational equity. He lives in Princeton, New Jersey.

the unemployment rate will not exceed 8.6 percent and that after 1989 there will be no recessions.

If the economy behaves according to this scenario, the SSA predicts, the disability trust fund will be exhausted in three years, Medicare in seven, and the pension fund by 2024. The SSA estimates that by 2055 the cost of these three programs will be equivalent to 42 percent of all taxable payroll. The present cost of the three programs is about 14 percent of all taxable payroll.

All SSA forecasts for the next century assume—with good reason—that future pension benefits will be much less generous than today's. In amendments to the Social Security Act passed in 1983 Congress enacted cutbacks that will lead to sharp reductions in pensions during the period in which the Baby Boomers will be retiring. As a result many (if not most) members of that generation will probably pay more into the system than they collect.

In a study published two years ago in the *Cato Journal*, Anthony Pellechio and Gordon Goodfellow, of the Department of Health and Human Services, calculated the financial consequences of the 1983 amendments, given the SSA's II-B assumptions and constant 1983 dollars. Here are some of their specific findings for Americans now under twenty-five: All members of this generation who remain single over their lifetimes, except for women who earn no more than \$10,000 a year, will be net losers. A single man who earns \$35,700 or more will lose some \$80,000 on his "investment" in Social Security. Two-paycheck families with incomes higher than \$20,000 will likewise pay more taxes than they receive in benefits. (Such projected losses contrast sharply with the returns enjoyed by current beneficiaries. In 1982 the Congressional Research Service estimated that a sixty-five-year-old worker who filed for pension benefits that year and who had contributed the maximum taxes since 1937 would get his contribution back in only seventeen months.)

The main reason why members of the Baby Boom generation should not expect much from Social Security, even if the system does survive, has to do with the rules for taxation of pensions. Since 1984 individuals whose income exceeds \$25,000—including all interest income and half the value of their pensions—have had to pay federal income tax on the whole of their pensions. Congress did not provide for the \$25,000 threshold to rise with inflation, nor is it likely to do so in the next century, when the financial pressures on the system will be extreme. Given just the modest inflation rates assumed by the SSA's II-B model, \$25,000 will buy less in 2030 than \$4,000 buys today. Thus all but the poorest Baby Boomers will probably have to pay income tax on their pensions.

THE IDEA THAT AMERICANS ARE BOUND BY DESTINY to experience ever-greater affluence has been an article of faith since the Second World War. That idea helps to explain why until recently almost nobody considered that public borrowing might encumber future

generations. It seemed to follow that as long as the economy continued to grow at a robust rate, the transfer of debt from one generation to another would be painless. Borrowing against the future would be like taxing the rich to help the poor.

Paul A. Samuelson, arguably the most influential economist of the postwar era, helped to popularize the notion of borrowing against the future in a defense of Social Security that appeared in *Newsweek* in 1967. "The beauty about social insurance is that it is *actuarially* unsound," he wrote.

Everyone who reaches retirement age is given benefit privileges that far exceed anything he has paid. . . . How is this possible? It stems from the fact that the national product is growing at compound interest and can be expected to do so for as far ahead as the eye cannot see. Always there are more youths than old folk in a growing population. More important, with real incomes growing at some 3 percent per year, the taxable base upon which benefits rest in any period [is] much greater than the taxes paid historically by the generation now retired. . . . Social Security is squarely based on what has been called the eighth wonder of the world—compound interest. A growing nation is the greatest Ponzi game ever contrived. And that is a fact, not a paradox.

For any historian of the postwar era, one of the great riddles to be solved is why a generation of economists and intellectuals who had experienced the trauma of the Great Depression became convinced during the 1950s that the country had entered an age of unbounded growth and affluence. David Riesman, a sociologist at Harvard University, whose commentaries on the *Zeitgeist* of the 1950s were—and still are—widely appreciated, was among the first to proclaim that the near prospect of an end to scarcity had transformed American society. In an essay published in 1952 Riesman wrote, "Whereas the explorers of the last century moved to the frontiers of production and opened fisheries, mines and mills, the explorers of this century seem to me increasingly to be moving into the frontiers of consumption."

In 1956 the historian Arthur Schlesinger, Jr., called on liberals to put aside their concern for economic growth and to address instead what he called "miseries of an age of abundance." Schlesinger wrote in a much-remarked essay for *The Reporter*, a leading liberal journal of the day, "Instead of talking as if the necessities of living—a job, a square meal, a suit of clothes, and a roof—were still at stake, we should be able to count that fight won and move on to the more subtle and complicated problem of fighting for individual dignity, identity, and fulfillment in a mass society." Schlesinger urged liberals to occupy themselves with such goals as "the bettering of our mass media and the elevation of our popular culture, in short, with the *quality* of civilization to which our nation aspires in an age of ever-increasing abundance and leisure."

The conviction that the economy would always grow and that the next generation would have to be concerned only with matters of the spirit owes much to the influence

of the economist John Maynard Keynes. Even with the world economy collapsing around him, in 1930 Keynes confidently predicted that through the miracles of science and compound interest the standard of living in developed countries would rise so high that the common man would be free to cultivate "the art of life itself." In an essay titled "Economic Possibilities for Our Grandchildren" he wrote that the new age would bring a reaffirmation of "the most sure and certain principles of religion and traditional virtue—that avarice is a vice, that the exaction of usury is a misdemeanor, and the love of money is detestable, that those walk most truly in the paths of virtue and sane wisdom who take least thought for the morrow."

In the 1960s the discussion of the relationship between the economy and the good of society narrowed. For years economists had been debating what the "optimal" rates of savings and investment ought to be. In the 1960s a more specific question arose: By how much should social planners discount the interests of future generations in their cost-benefit analyses of such long-term public investments as dams and highways?

Economists argued endlessly over what they referred to as the "social discount rate," wielding against one another such arcana as alternative utility functions, mathematical axioms of cardinal welfare, and game-theory matrices. The real subject of the debate, however, was not at all obscure. According to the Yale University economist James Tobin, in a 1964 essay summarizing the already voluminous literature, the real subject was one that "has always intrigued and preoccupied economists: the present versus the future." Tobin put the question this way: "How should society divide its resources between current needs and pleasures and those of next year, next decade, next generation?"

In the beginning the idea that it is reasonable for one generation to make sacrifices for the welfare of the next went unchallenged. But as the economy's robust growth continued, some doubt on that point was introduced. In 1964 Gordon Tullock, an economist now at George Mason University, asserted that "the next generation . . . is going to be wealthier than we are," and that to save in its behalf would "clearly tax the poor to help the rich." In 1968 William Baumol, an economist at Princeton University, paraphrased Tullock's description of public investments, calling them a "Robin Hood activity stood on its head." Apparently convinced that future generations would enjoy ever greater affluence, Baumol wrote, "In our economy, by and large, the future can be left to take care of itself. There is no need to lower artificially the social rate of discount in order to increase further the prospective wealth of future generations."

In examining the course of the debate over the social discount rate one is struck by several ironies. The first is that precisely during the period in which mainstream economists were moving to the view that their cohort was under little or no obligation to undertake new capital projects in behalf of future generations, much of the nation's existing infrastructure was being allowed to fall into disrepair. Beginning in the late 1960s the cost of the Vietnam War and the expanding agenda for social spending necessitated severe cutbacks in spending for public works. From 1965 to 1980 total public capital investment declined by 30 percent, from \$33.7 billion to less than \$24 billion. Measured as a share of gross national product, the nation's capital budget fell by more than half, according to estimates by the Council of State Planning Agencies.

These statistics betray not only a reluctance at all levels of government to undertake new projects but also a lack of



commitment to the maintenance of existing public works. According to separate studies by the Congressional Budget Office and Congress's Joint Economic Committee, from 1983 to 2000 the country will need to spend more than a trillion dollars to repair and replace existing public infrastructure. This sum is equal to more than half of the national debt and much of it must be counted as part of the encumbrance being imposed on the young by the old. What economists should have been asking themselves twenty years ago, it now seems clear, was not how much people should sacrifice to build new dams, highways, bridges, and the like but whether they were under any obligation to maintain the improvements that had been conveyed to them by preceding generations.

The second irony of the debate is that although subsidies to the elderly were increasing dramatically throughout the 1960s and 1970s, that trend made no evident impression on anyone's thinking about the reciprocal obligations between generations. Even the philosopher John Rawls, of Harvard University, who joined the discussion in 1971 with his monumental book *A Theory of Justice*, made the implicit assumption that only one generation occupies the earth at any given time, and that therefore the old are never repaid for the sacrifices they have made for the young.

F. Scott Fitzgerald, famously, defined a generation as that reaction against fathers which occurs about three times a century. In discussions of political economy, however, the more useful distinction is between dependent youths, working-age adults, and the also dependent retired population. In the United States today these three generations share the stage, and each, according to law, has its own set of rights and privileges. Members of each generation begin life entitled to public subsidy from their elders for the cost of education if nothing else. They end



life entitled to subsidy from their juniors—specifically, for the full public cost of health-care and retirement benefits.

The long-term interdependence of the three generations makes questions of reciprocity, and therefore of justice, inevitable. The middle generation in any given era either must strike a prudent balance between the demands of its parents and the demands of its children or prepare itself for an unhappy retirement. If, for example, the government spends so much on the elderly that it must skimp on the education of the young or on investment in economic growth, then when it is time for the young to govern, they may be unable to provide their elders with enough support. Alternatively, if the government is stingy with the elderly, the young may come to feel like the child in "The Tale of the Ungrateful Son"—free to shirk their responsibilities to the old.

OLD AGE IS NO LONGER SYNONYMOUS WITH NEED. According to the U.S. Bureau of the Census, as recently as 1959 nearly a third of the population over sixty-five was living below the poverty line. According to the latest Census figures, the number is now 14.1 percent—a full percentage point less than for the population as a whole. Moreover, when the market value of non-cash benefits like food stamps, Medicare, and subsidized housing is counted, the poverty rate among the old falls to 3.3 percent. There are nearly four times as many children under eighteen below the federal poverty line as there are senior citizens below it. Indeed, by some measures, the elderly as a group actually have a higher standard of living than the working-age population does. For example, in 1982 the average after-tax per capita income for households headed by people sixty-five and older was estimated by the Census bureau to be \$7,845. The average for all households headed by people under sixty-five was \$6,780.

Advertisers, predictably, have been quicker than social scientists to catch on to the emergence of an increasingly large and prosperous class of older Americans. Until recently it was a truism of the industry that companies with "upscale" products to sell should generally avoid marketing to the elderly. Indeed, consumers fifty and older, so the thinking went, were best ignored in designing advertising strategies for most luxury items: people in that age group were expected to be unhealthy, set in their ways, and reluctant to spend what little discretionary income they might possess. Now that notion has largely given way, in the face of the growing affluence and the new "active life-style" enjoyed by many older Americans, including the retired.

According to Judith Langer, a marketing-research consultant who published a report for advertisers seeking to reach the over-fifty consumer, "The glitter is off the Baby Boom." Langer says, "The Baby Boom was once the darling of the media, but these people, it turns out, just don't have the disposable income of older Americans."

Rena Bartos, a senior vice-president of the advertising

firm J. Walter Thompson, has identified what she takes to be a new class within the population of people fifty and older—one that she calls "active affluent." She says that although most members of this class are still in their fifties and working, she expects them to carry their "new values" and affluent life-styles with them into retirement. "They're caught up in the same desire for self-realization that affected the younger generation during the sixties and seventies," Bartos says. "It's a desire not for total hedonism but for a full, rich life. They don't want to just sit on the shelf. They want to travel, purchase luxury items. Having fulfilled their obligation to educate their children, they don't want to spend the rest of their days just building up an estate."

The same theme is echoed in the promotional material sent to potential advertisers by *Modern Maturity*, the official publication of the American Association of Retired Persons. AARP is by far the largest and most powerful senior-citizens' lobby in the country, claiming more than 18 million dues-paying retired and "pre-retired" supporters. While its legislative office has consistently pressed the argument on Capitol Hill that older Americans as a whole need and deserve more social benefits, the business staff of its magazine has been asserting the opposite to potential advertisers.

One of the magazine's recent media kits proclaimed, "50 & Over people . . . They've got clout! Affluent . . . Aware . . . Active Buyers with over \$500 Billion to spend." Inside, the copy reads, "50 & Over people are putting into practice the credo of 'Living for Today'! They're spending on self-fulfillment *now* (Hedonism vs. Puritanism), rather than leaving large sums behind." AARP's advertising brochure boasts, "When viewed on a per capita income basis . . . the 50 & Over group reveals a high income profile and spending pattern that makes it one of the most affluent consumer markets in the U.S. today."

The pitch has worked spectacularly. In 1983 *Adweek* for the first time included *Modern Maturity* on its annual list of the country's ten "hottest" magazines. During the previous recession years *Modern Maturity's* advertising revenue had surged ahead by 46 percent, with a 21 percent gain in ad pages.

Ironically, many firms have decided that the best way to reach this new affluent class of older Americans is to offer senior-citizen discounts. Eastern Airlines, for example, has a fare policy under which a customer sixty-five or older can buy a year's worth of travel over all its routes for \$1,299—hardly the sort of discount likely to benefit old people who are truly in need, but a good marketing strategy for winning over "super citizens," as some advertisers now label the comfortably fixed elderly. Banks, having become aware of the tremendous pool of savings controlled by older Americans, now routinely offer such benefits as free checking and reduced fees for safe-deposit boxes to customers sixty-five and older. Of course, such discounts must come at least indirectly at the expense of younger customers.

WITHIN A FAMILY TRANSFERS OF WEALTH BETWEEN the generations are usually based on need. A rich father is not likely to receive payments from his children merely because he has reached his sixty-fifth birthday. In contrast, almost all federal benefits to the elderly are distributed with no consideration of need. Yet as the senior-citizens' movement constantly stresses, many retirees continue to be active, healthy, creative, and useful until very advanced ages. Moreover, as we have seen, many are affluent, as well. Why, then, should we persist in subsidizing them as generously as we do? More than a tenth of all Social Security spending goes to households with independent incomes totaling \$30,000 or more a year. Much of this independent income is in the form of interest payments and capital gains. To demand across-the-board benefits merely on the basis of age is in effect to advocate welfare for the rich.

Americans have good reason to make such a demand, however. From the start politicians have described Social Security programs as forms of insurance—a conceit in no sense justified by the actual financial mechanisms underlying the system. Naturally, the elderly have based their retirement strategies on the assumption that the government would keep its promises to them, come what may. It would not be right to change the rules of the game on those already collecting or soon to collect benefits, however expensive it may be to keep those rules in force.

Many younger readers are likely to ask, Why should the burden of reform fall only on us and our children? Why should the old escape the consequences of their own shortsightedness as a generation? Whether or not one can see a moral justification for preserving the older generation's entitlements, one should consider a purely political reason for doing so. The power of the Gray Lobby is overwhelming. No reform is possible unless today's senior citizens are largely exempted from sacrifice.

In any case, the challenge for members of the Baby Boom generation will be not how to meet the demands of their parents but how to provide for their own retirement without putting an impossible economic burden on their children. In the 1960s economists called into question the need for one generation to provide for the future well-being of its descendants. Today the more pertinent question is how much one generation can rightfully *borrow* from its descendants to subsidize its own consumption.

There are no purely technical solutions to the enormous deficits looming everywhere in the social accounts of the government. According to Albert M. Wojnilower, a prominent economist and the managing director of The First Boston Corporation, in New York City, "Our problem is not an unbalanced federal but an unbalanced national budget. As a nation and as individuals, we are probably committed to expend more in real resources than we will be able to produce. . . . It is comforting to talk about a bloodless and abstract budget, rather than to face the terrifying ethical and societal issues that have made the budget what it is."

The deficits arise ultimately from demographic shifts that have thus far not been accommodated by the major institutions of the welfare state. For example, on the whole Baby Boomers started working and paying taxes much later in life than did members of the previous generation. Eighty-five percent of those now between the ages of thirty-four and thirty-eight graduated from high school, in comparison with only 38 percent of their parents. The majority of Baby Boomers have completed at least one year of college. Now, consider the economic implications of this trend in conjunction with increasing life expectancy.

A thirty-five-year-old man can expect to live another thirty-nine years. If he remained in school until he was nineteen and if he retires at what is now the most common age—sixty-two—he will spend nearly half his life free from labor. Can such a person, in any real sense, pay his own way through life? To do so, he must produce as much during just half his lifetime as he consumes in all of it.

This example hints at the dimensions of our fiscal predicament. If the typical middle-class citizen winds up consuming more over his lifetime than he contributes to the growth of the economy, where will the resources come from to settle his account? The shortfall will inevitably be charged to members of the next generation, and will reduce their standard of living.

Some, no doubt, will advocate higher taxes for the rich as a solution. But such taxes alone are unlikely to yield enough revenue to cover even the reduced entitlements now promised to the Baby Boom generation for its old age. Neither is it likely that the country will be able to cover the shortfall by further borrowing. Already the size of the national debt is limiting our options as a society. This year the interest alone is expected to consume 15 percent of the federal budget. Given current interest rates, every dollar the government borrows today will cost taxpayers approximately \$24 in interest over the next thirty years. Right now government borrowing is responsible in large measure for the country's high interest rates and overpriced dollar; the strength of the dollar, in turn, contributes to the huge deficit in our balance of trade. Leaving aside whether we can borrow against future resources without hurting the next generation, we cannot do so without hurting ourselves.

The demographic shift most important to long-term deficits is the dramatic decline in fertility rates for members of the Baby Boom generation. Much more than any increase or decrease in longevity, fertility rates affect the eventual age distribution of a population. In recent years the American fertility rate has ticked up slightly, but it is still close to the record low, reached in 1976, of 65.8 live births per 1,000 women of childbearing age. The low fertility rate guarantees that the median age of the American population will rise dramatically in the years ahead—barring, of course, an enormous increase in immigration. As the population ages, the demands on the budget will become extreme.

Today the number of people sixty-five and older is

growing twice as fast as the population as a whole; the number eighty-five and older is growing more than five times faster. Still, the burden of supporting the old is manageable, because there are now 3.4 workers to help support each retiree. By 2030, however, that ratio is expected to fall to two to one.

Some people have optimistically observed that the cost of supporting the Baby Boom generation through retirement may be offset, at least in part, by a decrease in expenditures for the young as they decline in numbers. But if current spending patterns persist, we will be left nevertheless with a huge gap. The most recent study on the subject to date, by Robert Clark, an economist at North Carolina State University, was published in 1977. In 1975, according to Clark's estimates, total per capita expenditures for the elderly, at all levels of government, exceeded the amount spent for children seventeen and under—including the total spent on public education—by more than three to one.

The imbalance in social spending for the young and for the old has an additional implication worth pursuing. It means that a couple can expect little relief from the expense of raising children, and may therefore choose not to have any. That expense is very high. Thomas Espenshade, in a 1983 study for The Urban Institute, a nonprofit center for the study of social policy, in Washington, D.C., calculated that the typical middle-income family of four, in which the wife works part-time, spends \$82,400 (in 1981 dollars) to care for each child until the age of eighteen. The figure rises to around \$100,000 per child when such a family sends the children to a four-year public university or college.

These figures reveal only part of the problem. From 1960 to 1982 the labor-force participation rate for married women in the prime childbearing years of twenty-five to thirty-four more than doubled, from 29 percent to 62 percent. Yet despite all this additional work on the part of young wives the real after-tax household income for the age group declined by 2.3 percent. No wonder, then, that the birthrate is so low. Young couples have reason to feel that they cannot afford to raise a family. Even though two paychecks have now become the norm among today's young couples, their standard of living is actually lower than that enjoyed by their counterparts in the early 1960s—when typically only the husband worked, and the wife stayed home to raise children.

So it is that while the Baby Boom generation's prospects for retirement hinge on population growth, too few young

couples feel able to have families. Today the obligation of the middle generation to the old is almost fully socialized, while the cost of raising the next generation falls, for the most part, to individuals. If that cost were offset by more generous subsidies, the birthrate would almost certainly rise and the trend toward a disproportionate number of old people in the population as a whole would be reversed.

The elderly, in laying plans for their retirement, bet that young Americans today would be much richer than they have turned out to be, and also less healthy and more inclined to raise large families. Those errors probably will not—and should not—cost senior citizens their entitlements. But they do point up the need for young Americans to be more prudent in devising their own institutions for retirement. For Baby Boomers especially, the margin for error is very small.

The augmentation of capital is central to the implicit contract between generations, and members of the Baby Boom generation will neglect that at their peril. Throughout history it has been the practice in most cultures for people to strive during their middle years to build up or hold on to some store of value, such as land or gold, for the eventual purpose of providing their children with a legacy. Their chances of being supported and respected in old age are thus much improved.

A British folktale, for example, tells of a poor old man who was mocked by his sons, until a friend, hearing of his plight, lent him a bag of coins for a day. The old man allowed his sons to discover him at the kitchen table counting what they took to be his secret treasure, and thereafter they all treated him with

proper veneration until he died.

In an agrarian economy, such as that which prevailed in colonial New England, the old could often retain enormous power over their middle-aged children by refusing until the last possible moment to convey title to their farmland. "Better it is thy children should seek to thee, than that thou shouldst stand to their courtesy," went the common advice to the aged. As the social historian David Hackett Fischer, of Brandeis University, has observed, in colonial New England "land was an instrument of generational politics—a way of preserving both the power and the authority of the elderly." According to Fischer, "Sons were bound to their fathers by ties of economic dependency; youth was the hostage of age."

With industrialization the balance of power between the generations shifted. Factory workers could start young and achieve a tolerable standard of living without first inherit-



ing an estate. But by the same token, having gained this freedom, most could not save enough out of their wages to provide for their own turn at being old.

Under the rules of the welfare state the remedy for this problem has been to allow each generation to tax its children, through such programs as Social Security and Medicare. Because these programs are not capitalized, it might seem that the social contract between the generations has been fundamentally altered: each generation appears simply to appropriate by law some share of the next generation's wealth, without providing any compensation.

Yet, as we have seen, the long-term solvency of these programs depends on robust economic growth. Barring extraordinary good luck the only way any generation can bring about such compounding prosperity for its children is to build up capital and invest it wisely. In effect, then, the terms of the social contract have remained the same. Each generation, in exchange for support in old age, still must provide its children with a legacy. All that has changed is that the necessary sacrifice falls not just to the individual but to the whole of his generation.

The Baby Boom generation's long-term interests will be served best by policies that promote capital formation and productive investment. In the short term, the implementation of such policies would oblige Baby Boomers to rediscover the ethos of thrift. For one thing, financial capital by definition is deferred consumption. For another, as an increasingly large share of the pool of savings was channeled to productive uses, there would be less credit available for consumer borrowing. Yet the sacrifice would have its rewards. Baby Boomers would have at least the moral satisfaction of attempting to pay their own way as a generation. And they would stand a good chance of bringing about a truly affluent society for themselves and for their children.

THERE ARE MANY WAYS TO ORGANIZE SUCH AN EFFORT, and I do not mean to suggest any one. Advocates of industrial policy, who seek greater government investment in either high-tech or declining industries, may find attractive the idea of purposefully building up large reserves within Social Security's pension fund and investing the assets not in Treasury notes but productively, in publicly selected industries. The fact that an entire generation's retirement benefits would be linked to the success of the investments would serve as a powerful political check against boondoggles or special-interest bailouts. But all of the hazards of a large socialized economy would come into play.

Alternatively, Social Security and Medicare might be replaced gradually by increasingly generous provisions for individual retirement accounts, and at the same time taxes on savings and capital gains might be abolished or cut back. This approach should appeal to more-conservative members of the Baby Boom generation. If this strategy were undertaken, however, it would be important to make sure, through the mechanism of tax incentives, that the resulting pool of capital was used for productive purposes, rather than merely to finance mergers and takeovers.

Whatever strategy is adopted, there must still be generous public provision for the elderly poor. It does not take much political savvy to realize that an entitlement program based on need runs a much greater risk of being killed or inadequately funded than does one that distributes benefits to all classes. But as we have seen, providing benefits to the old regardless of need is bound to impose an intolerable burden on the young—principally because there will be so many old people to support in the next century.

Is there any way around this predicament? One means of compromise would be to raise the retirement age higher than Congress has already done (it is scheduled to be sixty-seven by 2027). At first glance, this proposal seems fair. The Baby Boom generation will probably be longer-lived than any that has gone before—and thus will spend a longer period in retirement. But whereas means testing presents a potential threat only to the poor, setting the age requirement higher is all but certain to have unhappy consequences. The poor do not live as long as middle- and upper-class people do. Black males born in 1982, for example, had a life expectancy that year of 64.9 years. In contrast, white males born the same year could be expected to live past seventy-one. Distributing benefits on the basis of age alone tends to work to the advantage of those least in need. Raising the retirement age under such a system only compounds the inequity.

Giving to each according to his circumstances rather than his age seems the fairest principle. Such a policy may encourage some people to be spendthrifts, but if we provide a strong incentive to save for retirement, the problem should be manageable. As currently written, the tax code rewards large borrowers, by allowing full deductions of interest payments, and discourages most forms of saving. Given the Baby Boom generation's long-term need for capital formation, this is a perverse arrangement.

What becomes of Social Security, Medicare, and other retirement programs in the future is not an issue for senior citizens. It is an issue for their children and grandchildren to decide, before time runs out. □

A Short Story



VULCAN

BY PETER BEHRENS

IN 1976 ALBERTA WAS FULL OF DRIFTERS. JOBS WERE easy to come by. I quit the rigs in August of that year. We had been drilling out on the Saskatchewan border. The harvest was coming in and I knew there would be a shortage of hands. The manpower office in Calgary found me a job, trucking, on a grain farm down at Vulcan. I took a locker in the Greyhound depot, stored my gear, and bought a ticket for the next bus south.

A farmer named Steve DiCesare met me when the bus stopped at Vulcan. We drove out to his place, nine miles from town on the provincial highway. Swathers were out in the fields we passed, laying down the crop, and in a few fields the threshing had begun. Chaff and dust were in the air, and where the grain trucks turned onto the highway from the fields the asphalt was streaked with yellow grain that had slopped from the truck boxes.

We turned down a section road and after a mile or so came to the DiCesare place. As we drove into the yard, I noticed an Allis-Chalmers combine and two five-ton trucks with grain boxes parked in a nice neat row in front of the barn. I saw the farmhouse and, on the other side of the yard, closer to the barn, a tin Atco trailer, set up on concrete blocks. Near the trailer was an old Ford half-ton with Saskatchewan plates, its hood propped open with the stem of a broken hockey stick. A man and a boy were bent over the engine.

"That's the truck driver I hired day before yesterday," Steve said. "He done nothing ever since except poke around on that piece of junk that brought him here. The little guy is my boy, Pete."

Steve stopped his truck alongside the old half-ton, just in front of the Atco. When I stepped out, my boots sank two inches into the yard mud; it was gray and slippery. There were corrals behind the barn and the yard smelled of cattle.

"Found out what's wrong with the old heap yet?" Steve asked the truck driver.

The truck driver stepped back from the motor and jerked away the stick so that the hood of the old truck dropped down with a heavy iron *clang*.

"Valves," said the little kid. "We could get the head off—"

"No," said the truck driver. He was about nineteen, a

lowlife, just the type you always find out there. Buck-toothed, scrawny as a rat, wearing cowboy boots and a Cat hat made of nylon mesh. "No," he said. He was angry, being told something by a twelve-year-old kid. "It ain't the valves but the timing, just like I told you."

"There's a bunk for you in the trailer," Steve said to me. "Wife laid blankets in there. Ask her if you want more. I've set a shower up for you boys behind the barn. Go easy on the hot water." He walked away, in the direction of the house.

"Supper's in an hour," he called back over his shoulder.

The little kid came over and put out his hand. "I'm Pete DiCesare," he said. "His name is Duane and he came day before yesterday from Saskatchewan. You and him'll be driving my dad's trucks. Duane already picked out the Dodge, so you'll be driving the red International."

We shook hands, and the kid turned to the truck driver.

"Duane," he said, "you can't get the timing right with the valves rattling like that. Don't you know nothing? If you had one of those kits and we checked compression—"

The truck driver spat onto the ground and scraped at the spittle with the pointy toe of his boot. "Hunh!" he said. "That's what you think. It's the timing chain makes that noise."

"No, it isn't."

"Yes, it is!" Duane said. "What do you know about trucks?"

"More than you," Pete DiCesare said. "And I wouldn't of bought this pile of junk like you did. I wouldn't brag about driving a half-ton that was nothing but a wreck. My dad says you couldn't even get a license for it in Alberta."

The truck driver was red in the face. "You don't know nothing! Got Saskatchewan plates because I bought it in Prince Albert. And the whole way here she burned just a little over one quart of oil. The man told me when I bought it, said something was loose with the timing chain. Anybody could fix it."

"Not you!" Pete said. "You don't have any tools."

I left them arguing. The half-ton was no good, anyone could see. It was the kind of truck that farmers let their kids drive around the fields before the kids are old enough to go for their licenses. I pulled my duffel out of Steve's truck and hauled it up into the trailer.

Inside were two bunks, made up with army blankets and flannel sheets. Or one was made; the other was messed up, with crumbs of food all over the sheet and a

Peter Behrens is a Canadian writer at work on a collection of short stories.



pile of candy-bar wrappers and skin magazines beside it on the floor. I set down my duffel and sat on the other bunk.

I was a fisherman in Cape Breton, Nova Scotia, before I came out west. I have been back there a couple of times, but I can't stay. Things aren't the same in Nova Scotia; you keep a job for life there if you're lucky enough to get one. And the pay is nothing. My first season on the rigs, I made more money than my father could earn in a year of fishing and unemployment insurance.

The plywood walls inside the Atco were stained with mildew and the floors were all chewed up—signs to me that the trailer had last been leased out to some logging outfit. Everything gets mildew from the damp in BC, and

loggers' calks don't go easy on a floor. An outfit in Calgary leases Atcos and hauls them all over the west. You leave one job for another; six months later and five hundred miles away you find yourself sleeping in the same trailer. Men scratch their names into the walls. They write their names, and dates, and the names of places that sound just like prisons; Fort McMurray, Grande Prairie, Fort St. John, Pembina Fields, Alsask.

I was sitting on the bunk with my duffel at my feet when the truck driver pulled open the screen door and came inside.

"Why don't you take your boots off before you come in?" I said. "This place is bad enough."

"Jesus Christ," he said. He could tell I wasn't kidding around: he kicked his boots into the corner.

"Leave them outside next time," I said. I could tell he was lowlife and I didn't like the idea of living in that damn Atco with him for six weeks or however long it took to bring the crop in. For a moment I had the idea to just pick up my gear right there: pick it up, sling it over my shoulder, and walk out of that trailer into the bright sunlight, across the shit-smelling yard and down the section road in the heat of late afternoon there on the wheatland prairie—just get down to the highway and hitch a ride away from it all.

I thought of my father's house, in Cape Breton, which was white and shining and perfectly clean, and of the meadows that slant down to the sea. When I left Cape Breton I left the world of people who dwell in houses, and since then I have lived always in trailers or motels.

Duane picked up a skin magazine and lay down on his bunk. "That kid don't know nothing about trucks," he said.

He made me angry, but you can't do anything when you are surrounded by trash except ignore it. Someday I want a ranch of my own, a little place up in the foothills. I'll get my brothers out from Nova Scotia and we'll raise horses.

I lay down on my bunk, and a while later I heard a woman calling us for supper. Duane tossed his magazine to the floor and pulled on his boots. I followed him across to the farmhouse, through that muddy, fly-swarmed yard.

I COULD TELL THAT STEVE AND DONNA DICESARE DID not like Duane much. They were afraid that he would not know his job and that his mistakes would cost them money.

"The thought of that kid running a twenty-thousand-dollar grain truck makes my hair turn gray," Donna said.

We were drinking coffee in the kitchen. Supper was over, and Duane had gone out into the yard with Pete. Pete had his toolbox out and they were going to do some work on the half-ton.

"Manpower never has the men to send us," Steve said. "You get boys from the city or old rummy alcoholics, and you're supposed to bring the grain in."

"The government does not think of the hardworking farmer these days," Donna said.

"The men we used to get all make better money up on the rigs," Steve said.

"Or on unemployment, hanging around the beer parlors in Calgary," Donna said.

"The rigs, the pipeline, the tar sands," Steve said. "The money in Alberta, now—"

"This country used to be full of hard workers, but now everyone has got it easy," Donna said. "Last year the government sent a neighbor of ours Indians to work the harvest. Indians. Who would let an Indian up on their combine? I've nothing against them, but they don't suit machinery. They're not dependable, not the kind of men

farmers need. These people sneaked back to Hobbema one night with half the crop still in the field. They were ashamed even to ask for their wages."

"They were pleasant enough fellows, but they weren't dependable," Steve said.

"So now we're stuck with Duane," Donna said, shaking her head.

"He paid eight hundred bucks for that half-ton up at Prince Albert," Steve said. "Thinks he got a good deal. Whoever sold it to him ought to be arrested—the thing's not safe to put on the road."

"Where does he come from?" I asked.

"Saskatchewan. He was washing cars in PA. He says he's been a truck driver before. I drove around with him, and he knows how to split-shift, anyhow. He says he wants to go up on the rigs and be a driller."

"That'll be the day," I said.

"God help us if he crashes into the combine," Donna said.

"I'm going to let Pete ride around with him," Steve said. "Pete can help him out. They get along together okay. Pete's quite a mechanic. He's got a better set of tools than I do. Ever since Duane got here, him and Pete have been fooling around with the half-ton. Maybe Pete can get it running better. He's been looking for an engine to work on. He overhauled the swather last spring."

"I don't want Pete spending a lot of time with that man," Donna said.

"Duane's just a kid. He's a little rough, but he's harmless."

Donna stood up to get the coffeepot from the stove.

"How old are you?" she said to me.

"Twenty-three."

"You look older." She poured coffee for her husband and then for me. "You look like one of the men we used to see around here. You look like a worker."

"Why did you leave Nova Scotia?" Steve asked.

"I just wanted to come out west."

"What is it everyone is after, coming out here?" Donna said.

"Jobs and money," I told her.

I took a sip of coffee. I like real kitchen coffee, the kind they make on the farms, the kind we used to have back home. I like kitchens in old houses in the country, with curtains in the window and the kids' drawings stuck to the door of the fridge. I like sitting at a kitchen table, looking through a kitchen window and seeing a row of windbreak poplars along the road. I like that coffee. Up on the rigs and in the logging camps you get your coffee out of a steel urn, with twenty men lined up behind you.

When I got up to leave, Steve said, "Keep an eye on that Duane, will you?"

"Okay."

"If Pete was old enough, we'd only need one man," Steve said. "I hate this thing of having to depend on someone like that."

"We'll give him a chance," Donna said.

BY TEN THE NEXT MORNING THE DEW WAS OFF THE crop, and the threshing began. The combine never stopped moving. When the hoppers were full, a truck would draw up alongside and move down the row as the combine unloaded a cloudy stream of yellow grain. When the truck was full, a horn sounded and the truck pulled away, bouncing across the stubble field to a break in the fence and speeding down the section road to the highway for a fast run to the elevators in town. After unloading at an elevator, the truck raced back to catch another load.

We ate meals served from the back of a station wagon. We sat around a card table, on folding chairs, eating food that had been brought out from the house in glass serving dishes. After eating we would have coffee and sit there for a few minutes, smoking, or chewing a bit of straw picked up from the stubble. If Pete was there, he and Duane would bicker back and forth about Duane's old pickup. If Pete wasn't around, Duane didn't have much to say. Once he asked me about the rigs.

"You been up there, ain't you?" he asked.

"Yes, I have. I was up two seasons."

"Well, I'm going up there next year," he said. "What's it like?"

When I first came to Alberta, on the train from Halifax, my big idea was to get rich up on the rigs. I worked drilling for two years, mostly up along the Saskatchewan border. I quit because I was tired of being surrounded by trash and because I wasn't saving any money.

"I want to make some real money," said Duane. "I want to fix up my truck. Pete says I need a new block. I'd like some mag wheels, is what I'd like. I made a down payment on a set before I left PA."

I knew that Duane could never be a driller. They'd take one look at him and turn him down. He was too scrawny and the work would kill him. They are pretty hard men up there, none crueller than some of the Cape Bretoners. He wouldn't last a week up on the rigs.

I tried to tell him, but of course he didn't understand.

EVERY NOW AND THEN WE'D SHUT DOWN EARLY AND get a night off. Steve would let me take his pickup, and I'd go into town. I met a little girl in there, one night at the beer parlor. I got a thing going with her although she was nothing, just high school jailbait in a little prairie town. But what the hell, I said, and took her anyway. She was blonde and she was pretty. We never had any trouble. You need a girl. I hated the beer parlor in Vulcan, the smell of beer and piss, with all the harvest gangs drunk in the corners and getting into fights. All the lowlife, in from the fields. Six or seven beers, then I'd take this little girl and we'd go down to the river.

This is not the way I was meant to be. I never thought of myself living this kind of a life. I don't know what I expected. People have a lot of money out here and you can get all the things you want: trucks, powerboats, trips to Hawaii. They need the workers and they pay you well and

you can't spend it anywhere but the beer parlors. When the job is over, you've got no reason to stay, so you pack it up and head out to another town. You contract to do six months at a bush camp so you won't have to think about where you're going. In the oil towns the decent people don't want to talk to you. You get into fights.

I think to myself, I will save money and go on back to Nova Scotia. But I've been out here too long now, and I don't think I could ever go back to stay. I remember the things I hated about it: the quiet of those towns on a Sunday, the way the sidewalks and the stores were full of old people. The last couple of years I was there, everyone in Cape Breton seemed to be just waiting to die.

Maybe I will get some land up in the foothills. I don't know a lot about horses, but I could learn. I could get my brothers out here. We'd all be happier than on the fishing boats, or in the mines.

THIS FELLOW DUANE I DON'T THINK OWNED MORE than the clothes he wore every day, plus a cowboy hat he kept hanging on a peg, and that old junk pickup truck.

Sometimes I'd say to him, "You want to come into town?" I'd say it just for friendliness' sake and not because I wanted him along, but he never wanted to come.

The only person he had any time for was Pete DiCesare. When we came in from the fields in the evening, the two of them would get to work on Duane's truck and keep working as long as they had light to see by or until Pete's mother called him in to bed.

Half the time the half-ton wouldn't even start. Pete would get under the hood with a wrench and a screwdriver while Duane sat pounding the driver's wheel, almost crying. Pete would fiddle around with the carburetor and then stand back and tell Duane to give it another go. Duane would pump the gas with the toe of his boot and grind the starter with his heel, hitting the dash with the palm of his hand and cursing. Pete and I would have to laugh. The starter would crank over and over without catching, and then suddenly it would fire up and the whole truck would be shaking and coughing blue smoke. Duane would gun the motor until he had it warmed up and turning over steadily. Then Pete would jump in and the two of them would head out on a test drive, through the yard and down the section road. The pickup would be sputtering and bucking, and sometimes when they got out on the road, it would stall. You could see it out there in the middle of the road, with the hood propped up and Pete working on it, while Duane squatted against the running board, pitching gravel angrily at the cows in the field.

I asked Pete about Duane's truck. That kid was a pretty good mechanic.

"Oh," he said, "it's just junk. The valves are shot and there's a crack in the manifold. He hasn't let me drive it, but I can tell by the way he steers that the front end is gone."

"Why do you work on it, then?"

"It's fun," Pete said. "I like old trucks. I wanted my dad to get me one, so I could take it apart. You learn a lot."

"What do you think of Duane?"

"Aw, Duane's okay," Pete said. He looked up at me. "Besides, he said I could drive, when we're up on the road where nobody can see. Don't tell my dad about it, okay?"

I said "Okay," though I didn't like it.

"You know what Duane's going to do with his harvest money?"

"No, what?"

Pete smiled. "He's going to a body shop in Calgary and get a five-hundred-dollar paint job done on his truck. He saw it advertised in a magazine."

"Maybe you should try to talk him out of it," I said.

"He's nuts," Pete said. "You can't talk him out of anything."

ONE THURSDAY NIGHT I WENT INTO TOWN, BUT MY girl wasn't there. I had a couple of beers and came back out to the farm. It was the fourth week of harvesting. We would be done in another week if the weather held. We'd been working seventy hours a week, and everyone was tired. I was thinking about where I would go when the crop was in and we got paid off.

Driving along the section road I passed Duane's old heap. Duane was in the passenger seat and Pete was driving. I flashed my headlights as I drove past. I was lying in my bunk, face to the wall, when Duane came in an hour later.

I heard him pulling off his boots at the door and the squeak of the springs when he lay down on his bunk. He always slept in his clothes. He must have picked up a magazine to read, because he left on the overhead bulb and I could hear the moths crashing into the screen.

WHAT WE DID ON YOUR VACATION

One of the nicest things we did
was play Pac-Man.
You took bills in wonderment
to the bar. I heard you tell
the bartender we've been married
twenty-nine years and you never thought
you'd see the day but you guess
five dollars worth of quarters
are in order. Actually,
it's only twenty-seven, but numbers
are your business, and this
is your vacation.

Isn't this the ritz?
A strange town on the way,
a dark bar and our own table
with Pac-Man under glass.
Two martinis, straight up,
one Beefeater, one Tanqueray,
that deep pleasure to be found
in marginal differentiation,
and we're all alone; no teenagers
crowding our shoulders,
hungry for us to run out of change.

Puzzled, you ask again,
Do you really want to do this?
All I can think to say is,
My friend Mollie shoots pool.
But the answer's yes,

and for the next half hour
monsters chase our little men
and disintegrate them all.
At each instant it seems
mastery is just coming:
still, we make no score greater
than two thousand. The game itself
taunts us: two people at this table
have made two hundred times that.

Marian Diamond who studies brains
says they can keep developing
throughout life. She says
she eats an egg a day and drinks
lots of milk. She doesn't say
it's better to have a keen mind
and die of clogged arteries
than be senile with great tubing,
but we know what she means;
this object of new beauty glows
between us in the dark.
If we sat here a million years, love,
eating eggs and drinking gin,
we might get good at this. We'd win.
Our little man would eat up
those monsters and all the dots
before their colors changed,
before they changed their spots.

—Alice Wirth Gray

I was nearly asleep when the door smacked open. I sat up fast and saw Steve. He took two steps toward Duane's bunk and reached down to grab him by the collar. Duane was holding a magazine. Steve hauled him to his feet and punched him. Right in the mouth.

"They ought to hang people like you!" Steve shouted. "They ought to cut off your balls!" He was holding Duane against the plywood wall and punching him on the side of the head.

I jumped out of bed. "What's he done?" I said.

"You stay out of this!" Steve said. "All you goddamn drifter trash! He went after my boy!"

Steve was holding Duane up by the shirtfront and slapping him. Duane's head was wobbling and blood from his split lips was sprayed on the wall.

I got in between them and tried to stop the beating. I began to push Steve away.

"Keep out of this!" Steve shouted. I got him by the wrists and squeezed until he let go of Duane's shirt. I was afraid Steve would try to knee me. I pressed up against him, moving him back. I gave him a shove toward the door. He tried to get at Duane around me, but I kept pushing him back.

"You're as bad as he is!" he screamed at me. "You get out of my way!"

"You'll kill him," I said. "You don't want to do that. Go back to the house. I'll take care of Duane."

The door had been slapped off its hinges. I pushed Steve outside. He stumbled down the cement-block stairs. Behind me I could hear Duane sobbing in the trailer, and his breath sounded short and wild, like a horse dying, run too hard. Steve and I stood in the yard facing each other. He was ready to take a swing at me, I could tell. A light went on in an upstairs window of the farmhouse, and I thought I could see Donna standing there.

"Get him off my land," Steve said. "Get that scum out of here. Get him out before I kill him. I'll beat him to a pulp. Get him out."

"I'll take him into town."

"You bastards. Donna said get rid of him, but I wanted to make my crop!"

"Calm down," I said. "Go back inside. I'll get rid of him for you."

Steve retreated toward the house. The lights in the kitchen flashed on: Donna must have gone downstairs.

"Don't wait till morning!" Steve said. "Get him out of here now."

I watched him go inside and then I went back to the trailer. Duane was on his bunk, the sheets and blanket spotted with blood. I made him sit up and began pulling the cowboy boots on his feet. I felt drops of his blood on the back of my neck. I took his cowboy hat down from its peg and jammed it over his ears. I went through all his

pockets and found the key to the half-ton. I got him outside and into the truck. I started it up and drove out through the yard with the thing smoking oil like a bastard. I only hoped we would make it into town.

A nurse was standing behind a tall desk at the hospital in Vulcan. I gave Duane a handkerchief to hold to his mouth, but specks of blood fell onto the linoleum floor. One of his eyes was swollen shut.

"It looks like someone has been in a fight," the nurse said.

"He was out behind the beer parlor," I said. "He must have had a few beers. Somebody beat him up and left him."

"Well!" the nurse said. "Who are you? Are you harvest hands?"

"I don't know who he is," I said.

"Do the police know anything about this?" the nurse said. She had opened up her register book and was standing there with a silver pencil in her hand.

"Lady," I said, "I don't know. I just found him out in the hotel parking lot, behind the beer parlor. He was sitting there in a truck."

"He must be working on one of the farms. Does he speak English? There are so many of the French out here—"

"Why don't you just get him a doctor?" I said. "I think he's broke a rib."

"And where do you work?" she said to me.

I had to get along. The farm was nine miles from town and we'd be threshing in the morning. I leaned Duane against the desk and let go.

"Come back here!" the nurse called.

No way.

I pushed out the door and cut across the parking lot, where I'd left the half-ton. I walked fast through the dark streets of Vulcan, heading out toward the highway. Crossing the tracks I noticed the dark shapes of the grain elevators, looming over the town like ocean ships over a wharf. I hurried to get clear of the town before the Mounties spotted me. They'd have been sure to pull me in—a suspicious character there on the dead streets after midnight.

I was paid off eight days later, when the crop was made. They wanted me to stay on for the fall plowing, but I was ready to go.

I went back to Calgary and worked at Canada Packers over the winter; in the spring I signed up for a survey crew in the high arctic.

Then last year I got on as a heavy-equipment operator for the provincial transportation department. Right now we're living in trailers up in the Kananaskis, working weekends and making triple time.

Back home I'd just be a fisherman, wouldn't I? □

PHOTOGRAPHY

LITTLE HAPPENINGS

BY HAL HINSON

MODEST AND self-effacing, the Hungarian photographer André Kertész has lived most of his life as photography's forgotten man. Although many of his best-known images—his languorously feline portrait of Colette, his eloquently poised studies of Mondrian's studio, his expressionistic series of radically distorted nudes—are frequently reproduced, the name of the artist who captured them may be unfamiliar. His reputation for the pioneering use of the small camera and for a vibrantly personal style of photo reportage is based almost entirely on work that he did in Paris during the productive eleven years from 1925, when he emigrated from Hungary, until his departure for America, in 1936.

Hal Hinson lives in New York and writes about film and photography for a number of magazines.

In Paris his pictures were widely circulated and discussed. Within only a few years of his arrival there he was at the center of an explosion of interest in photography and was revered as an innovative artist. In New York, however, it was a different story. His work was either misunderstood or ignored, and the editors of the major illustrated magazines, such as *Life* and *Look*, maintained that his methods weren't compatible with their needs. He claims that one *Life* editor told him, "You're talking too much with your pictures." With the beginning of the Second World War what had been intended as a sabbatical year in New York became a forced exile. As he said to his friend Brassai, on his countryman's arrival in America, in 1957, "I'm dead. You're looking at a dead man."

Last July André Kertész reached the age of ninety, and there is a kind of poet-

ic justice in the phoenixlike rebirth of his reputation that has occurred in recent years. The revival has continued this spring with a blossoming of Kertész books and exhibitions. *André Kertész: Of Paris and New York*, a book of three essays by three critics, is the first comprehensive treatment of the photographer's life and work. It was designed as the catalogue for a major exhibition that was mounted by the Art Institute of Chicago in May and that will be at the Metropolitan Museum of Art, in New York, in December. This spring and summer there will be a sprinkling of smaller shows in galleries across the country. *Kertész on Kertész*, a retrospective selection of pictures from his career, with comments by the photographer, was published in February. This current flourish of activity, which for the first time places the whole range of Kertész's work before us, makes us feel that a terrible wrong has at last been put right. Yet together with this feeling is one of regret—a nagging sense of too little too late.

KERTÉSZ'S PICTURES of Paris are a lover's portrait, and his separation from the city is like the saga of a great romance abruptly and irrevocably ended, leaving the lovers devastated, inconsol-



The Tuileries, Paris, 1929

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able. In the introduction to one of his collections, *J'Aime Paris*, Kertész said, "I write with light, and the light of Paris is my life's companion." Although Kertész continued to create great work after 1936, he never fully recovered from the loss of Paris. The city was his great subject, as it had been Atget's, and he photographed it ardently, with passionate delicacy. But if Atget's Paris is the Paris of old age, then Kertész's is the Paris of youth. Atget's images are saturated with a sense of loss and the heaviness of the past, of time passing, and he seemed to capture them in that magic instant before they vanished forever. Kertész caught Paris at the peak of its ripeness and vitality, just as it seemed to be giving birth to the twentieth century. His Paris is the Paris of noisy cafés and swirling traffic, of Picasso and the Surrealists—the Paris that is familiar from the novels of Hemingway and Fitzgerald and that for many people will somehow always epitomize that cracked-open moment in life when you feel yourself break away from childhood and emerge for the first time as your own person. This must be something like what Kertész felt in 1925, when he left his family and his girl friend, Elizabeth Saly (who later became his wife), behind in Budapest and strolled into the cafés along the Boulevard Montparnasse. This feeling of self-discovery is what makes the Paris photographs great. It's as if with each picture we can see him unfolding both as a man and as an artist, becoming more assured, more himself.

The remarkable thing about Kertész is how much of the artist was there to begin with. Although the open, unadorned pictures he took before he left Hungary—mostly landscapes and genre studies of peasant life—don't have the formal command or the feeling for abstract design of his later work, they hardly appear to be the work of an unschooled novice. Kertész, it seems, never went through the period of groping and uncertainty that most artists go through when they're just starting out and still struggling to find themselves. His concerns as a photographer and his ideas about what the camera was best suited for came to him intuitively, full-blown, and he never wavered from them.

These early photographs, which celebrate a natural, casually structured life that owes more to the nineteenth century than to the twentieth, have an impressive clarity and directness. They were taken when photography was for

Kertész still an avocation, during the few moments he could steal from his work on the Budapest Stock Exchange. It was a job he loathed, and the springy exuberance in these pictures seems to result from the release he felt in being able to escape the office and go out into the open with his camera.

We get this same intoxication with the life around him from his Paris photos. But a tentativeness and moody vulnerability mixes in with the other sensations in these pictures. Many of them are nocturnes, with solitary figures trudging through the mist. The pictures taken right after his arrival in Paris hint at the isolation he must have felt as a young man wandering the streets of an unfamiliar city. There's an unemphatic quality, a reserve, built into Kertész's photographs. As an émigré, in Paris and in New York, Kertész slipped naturally into the role of outsider, and, looking at his pictures, we get the impression that his status as a reporter, as someone who stood always a little to the side, recording his observations, suited him; that, in fact, he embraced it as a kind of special distinction that enabled him to take note of things others might have missed.

This is as much an aesthetic choice as an emotional one. Kertész has an impeccable sense of design, and it gives his photographs a formal strength that is missing from most photojournalism. But Kertész's pictures are never purely formal. He doesn't use abstraction gratuitously. Examining his Constructivist-like studies of chairs in the Tuileries and the steps at Montmartre, or his many pictures of the impacted New York cityscape, we can feel his interest in shapes and patterns. The influence of the revolutionary aesthetic ideas circulating throughout Paris—which he absorbed firsthand during long hours of conversation in the cafés with Mondrian, Léger, Tristan Tzara, and others—is clearly evident. But Kertész never made a fetish of these ideas. As Sandra Phillips points out in *André Kertész: Of Paris and New York*, his modernism is essentially Hungarian, an expression of his belief in photographic realism as an avant-garde principle. Kertész's way of photographing the world—his method of stepping back to capture the natural relationship between objects within the frame—implies that the shapes and patterns that supply the structure for his pictures are indigenous to the world and to his subjects, rather than imposed upon them by the artist. Kertész creates a special kind

of naturalism and, along with it, the feeling that the things of art are all around us if only we are observant, alert.

IN 1938 William Carlos Williams wrote, "No ideas but in things," and his words describe Kertész's approach to his work. If Kertész's photography can be said to have a subject, it is the pure, undiluted joy of looking. His photographs are about the wonder of ordinary, everyday things, like chairs and stairways and streetlights. He is charmed by reflections and shadows and birds in flight in a way that gives them a special intensity, and he looks at inanimate objects—billboards, window displays, clocks, discarded mannequins, and dressing dummies—in a way that animates them and makes them seem like characters in a story.

For Kertész, the present—which is the world of the photographer—is an inexhaustible source of what he once termed "little happenings," and in capturing them he has the photographic equivalent of perfect pitch. His pictures celebrate the pleasures of strolling and browsing and lounging. He likes parks and bistros, anyplace people gather to drink or talk or just relax and thumb through the paper, and nothing seems to make him happier than standing by the window and gazing out over the rooftops and chimneys (or into other windows). But the ease and economy in his photographs is deceptive, and his style is so colloquial that at first glance it may not make much of an impression on us. Kertész was a dedicated realist, but he had an instinct for the incongruous juxtaposition of details. In his best photographs—such as *Homing Ship*, *Ballet*, and *Landing Pigeon*—there is always a point where realism gives way to fiction, and the arrested moment expresses itself and simultaneously conjures a world of associations. It is his sensitivity to the area where the documentary and the imaginative overlap that gives his pictures their subtle effect and makes them stay with us.

Nothing in his images, although they have a snapshotlike immediacy, indicates that he approached the process of picture-taking as a matter of possibilities (as Garry Winogrand has suggested it is), hoping that the result might be a photograph. Kertész seemed always to know what would be a photograph and what would not. For this reason there is a consistency and unity of spirit in his work.

But as wide open as Kertész's pictures

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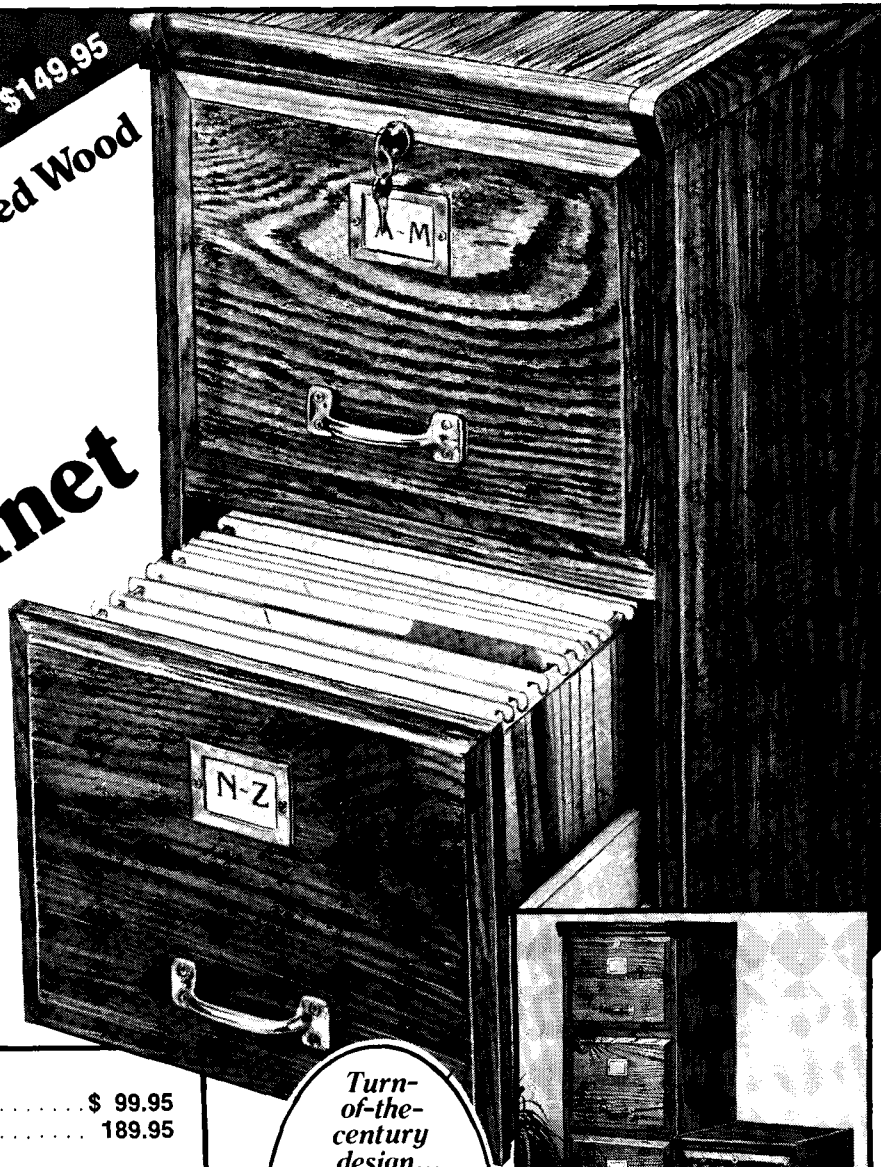
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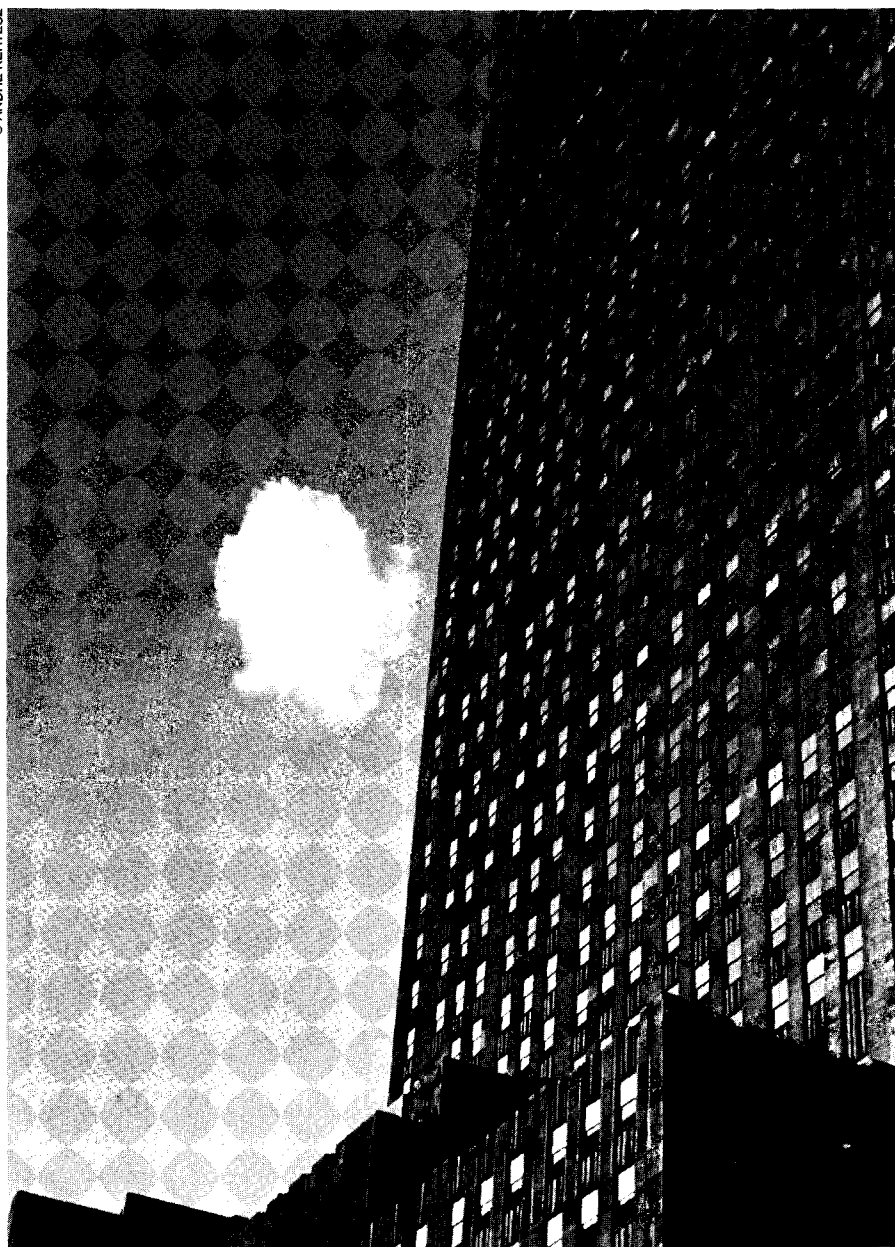
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Lost Cloud, New York City, 1937

are to the various aspects of life, too many of them strike the same emotional chord, as if somehow his camera were an instrument without the higher and lower registers. Kertész doesn't present us with the squalid, bare-light-bulb, soiled-sheets side of ourselves that photographers like Diane Arbus and Robert Frank expose us to in their pictures. In the way that we begin to grow weary of the exotic, after-hours realms that some photographers carry us into, and feel that they've missed something by leaving out the kitchen-sink aspects of life, we think that something important—perhaps something vulgar and mean but essential to life—has been left out of Kertész's pictures too.

Not only the darker side has been

omitted; there is nothing grand or heroic in his pictures either. Kertész's spirit isn't crabbed or cut back in the drab, washed-in-gray manner that we associate (perhaps too glibly) with Central European art. It may be that the sordid and the heroic just don't have a place in what Kertész considers to be the "real" world and thus are outside his province as a documentarian. In the pictures he took during the First World War, only the presence of uniforms and guns tells us that there was a war going on. We don't even sense the fighting and death just outside the frame. Although Kertész served on the front lines (and was, in fact, wounded), his pictures could be of an unusually large group of men on an outing in the country.

THERE IS AN almost irresistible innocence in Kertész's wistful vision of things which draws you in and makes you want to believe in it even when you can't. (Reading Fitzgerald has the same effect.) Kertész is an admittedly sentimental artist, and some people may find his photographs corny and old-fashioned, even a little Norman Rockwellish. But the emotional richness, and the way he marries sentiment and the formal elements in his pictures, set him apart from other photographers. The importance of sentiment in his work is most noticeable when it's missing, as it is so often in the pictures taken in New York. Kertész has lived there longer, and taken more pictures there, than anywhere else. In 1944 he even became an American citizen. But Kertész has never become, as Weston Naef, in *André Kertész: Of Paris and New York*, claims he has, an American photographer.

Kertész's stay in this country has been for the most part a horrible one. After his work was snubbed by the major mass-circulation magazines, he worked as a free-lancer and frequently had difficulty making ends meet until 1949, when he was able to nail down a position as a staff photographer with *House and Garden*—a break that allowed him to support himself but that resulted in his squandering thirteen years on what he has called "worthless hackwork." The rancor and disappointment he must have felt almost never expressed itself directly in his pictures. Still, his disaffection shoulders its way into the frame. There is a hardening of the compositions in his New York pictures and a greater reliance on abstraction, and in some of his cityscapes we feel the sharp angles of the modern buildings and the harsh New York light grating on his sensibilities. Although there are refinements and marvelous images among Kertész's New York photographs, they go over the same ground that he covered in Paris. Only rarely does anything inside Kertész reach out to his subjects in these photographs, and when it does, this seems to be because the moment reminds him of another like it, in another place. A part of him is absent. The joy of looking has been eclipsed by the determination to persevere, as if by continuing to examine the things that had brought him joy in the past he might, by some miracle, fall in love again.

The essence of what is missing from many of Kertész's New York pictures can be found not only in his photographs of

Paris but also in those he took of his other love—his wife, Elizabeth. Kertész didn't make the photographs he took of his wife a major part of his work, as Stieglitz did his portraits of Georgia O'Keeffe. There are only a handful (Stieglitz took nearly five hundred), and most of them—the ones included in *from my window*, a small book of color Polaroid pictures published in 1981—are about her rather than of her. But with this handful Kertész accomplishes something that Stieglitz, with all his years of attention, never approximated (and possibly never sought). One image in particular stands out. It was taken in 1931, soon after Elizabeth's arrival in Paris from Hungary, and it celebrates their engagement to be married. In the picture, which has been cropped from a negative of the two of them standing side by side, Elizabeth's face is bisected by the right-hand edge of the frame so that our attention is fixed on two important details: her right eye, which looks directly into the camera lens, and his hand, which rests gently on her shoulder. The image couldn't be simpler or more straightforward, but it is perhaps the greatest photograph ever taken of the bond between a man and a woman.

Fifty years later Kertész reprised this image as a homage to his wife, who died in 1977. The photograph is published on the dedication page of *from my window* under the inscription "For Elizabeth." Again Kertész has used the simplest means. The image is actually a Polaroid snapshot of the 1931 picture—but here he has placed a small wreath of thorns around his hand as it sits on her shoulder. The book also contains a series of snapshots of a tiny glass bust that Kertész thought resembled his late wife and that he posed by a window of his apartment so that the outside light, and part of the skyline, were reflected in it. These pictures, which are among the most delicately wrought images of mourning in art, represent an old man's withdrawal into the world of his thoughts and memories. They also express everything that lies beneath the surface in Kertész's work. What is most compelling about these photographs is how confidently they assert that photography is as much a medium of emotions as of surfaces, and it is in this assertion that Kertész's greatness lies. Graceful and elegiac, these fragile images have the soulful texture of a requiem. With them, Kertész carries photography into the realm of pure feeling. □

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MUSIC

NO-WAVE NIHILISM

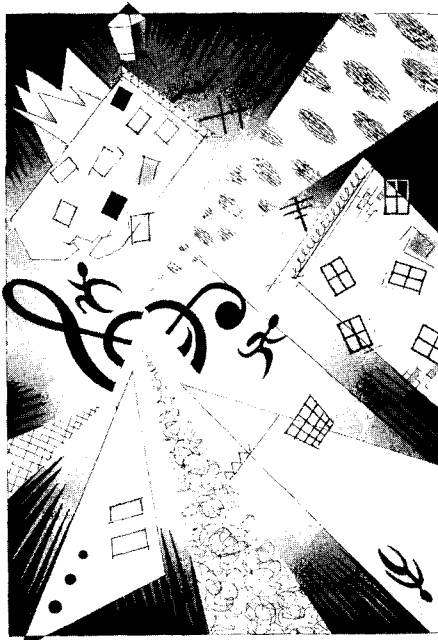
BY STEPHEN ANDERSON

THE DOMESTICATION of rock-and-roll is here to stay. Who could have predicted that the music that once embodied rebellion would fall into such thoroughgoing complacency? That all those physical idiosyncrasies—Chuck Berry's duckwalk, Elvis's hip-swivel, the Supremes' synchro-movements—would turn into gestures as emblematic as the hand-in-jacket Napoleon pose? That spontaneity like Little Richard's yelps and the wails of Jimi Hendrix's guitar would become classroom discussion themes?

What happened? Rock, along with its audience, became gentrified. That is, as the Woodstock generation reabsorbed the middle-class values it had rejected, rock retreated from its late-sixties fervor (psychedelia, soul, hard rock) to the benign comforts of mellow pop. The counterculture that had marched for peace got it, in the pacified sounds of Fleetwood Mac, the Eagles, and Linda Ronstadt. With the disintegration in the seventies of the united, influential youth culture, the record business became more able than ever to assert its hegemony over rock's direction. Major labels tended to promote records that would go platinum rather than spend money on out-of-the-mainstream music, however worthy it might be.

In response a group of bands surfaced in New York circa 1975. They had a rough-edged sound, an unshowy appearance, and a resolutely noncommercial vision. The news from England was punk rock, similar to the music of the New York bands but with a more codified fashion and a more vehement attitude. (The premier punk band was probably the Ramones, of New York, but the English punks are mistakenly considered to be the originators of the style, because they were more vocal and more politicized.) The punks ignored accepted standards of musicianship—anyone who could grimace and halfway

bash out three chords qualified. There was excitement in the music, bolstered by a near-evangelical need to purify rock of its high-gloss, low-content flatulence. The best new bands—the Patti Smith Group, the Sex Pistols, Television, the Ramones, the Clash, Talking Heads—adopted the rowdy and unrefined spirit that commercial rock had abandoned.



BUT FOR SOME this wasn't enough. By 1977, when record labels were testing the marketability of punk and calling it New Wave, a subgenre had developed in New York. The music of these bands seemed unnecessarily crude, the spirit of the players cheerless. This movement was eventually called No Wave, in reference to the bands' rejection of community, of musicality, and of rock's legacy.

Initially, No Wave came across as a parody of the New Wave and punk rebellion, a schism within a schism. Then it seemed to pick up a momentum of its own. Rock-and-roll was about twenty-five years old and stubbornly formulaic. Why shouldn't it undergo the same vivisection that the Second Viennese School had performed on classical music? May-

be No Wave could even effect a rapport between avant-garde cacophony and rock's ready-made structure (taken from classic twelve- and sixteen-bar blues songs), an improbable but not unthinkable alliance. No Wave proceeded cynically, creating dissonant music that declared "Rock is dead"—but the death throes had the irreverence that constitutes rock-and-roll's birthright.

Like it or not, No Wave has its antecedents in rock. Although it borrowed the punks' fractiousness and New Wave's intellectual distance, No Wave's lineage can be traced to the definitive cult band, the legendary Velvet Underground, formed in the sixties. The Velvets' music evokes wistfulness, pessimism, despair—anti-rock moods that suit No Wave's world-weariness. Besides the grim outlook and the New York home base, what connects No Wavers to the Velvets is a shared sensibility of noise: noise as evocation of urban life, noise as means to alienation, noise as soundtrack to desire. However, the Velvets used noise passages as episodes within rock-derived structures. No Wave noise often *is* the structure, with traditional rock elements—backbeat, hooks, riffs—either secondary or absent.

The sullen detachment of the Velvets—Lou Reed, especially—suited No Wave's collectively surly temperament. But whereas Reed stayed ultracool in projecting his disdain, early No Wavers were not so decorous. James Chance, the leader of the Contortions, had a trademark jerky stage dance that could turn into an assault on the audience. Slugfests would ensue while the band played on; later Chance—sports jacket crumpled, pompadour askew—would return to the microphone with a busted lip to finish the last verse. Less somatic abuse came from Lydia Lunch, No Wave's *prima donna assoluta*. She was seventeen when she founded the infamous Teenage Jesus and the Jerks, a savagely irritating trio that combined music and rhythm into enormous thuds. Lunch called herself "the best thing to happen to music in 250 years" but would berate her fans for the insolence of their admiration. It was a neat strategy: creating a persona from the friction between arrogance and self-loathing, without clueing in observers on which attitude to believe. Lunch's ambivalence mirrored the contradiction of No Wave's central paradox—music upbraiding music.

The charter No Wavers set out to

Stephen Anderson writes about rock music for The Village Voice and teaches English at Seward Park High School, in New York City.

plunder rock myths, especially the iconic status of the electric guitar. Maybe punks couldn't play very well, but No Wave guitarists sometimes couldn't play at all, preferring to treat the instrument as a noisemaker on which chords and notes were unnatural humanoid impositions. Arto Lindsay, of the band DNA, would thrash his guitar frenetically, producing a painfully discordant simulation of a traditional rhythm line. Lydia Lunch would slide a Budweiser bottle over her strings. The guitarists in Mars let their fingers fall haphazardly on the fretboard, simulating psychedelia while desecrating the shrine of the guitar hero. This willfully primitive guitar style was the exact opposite of the ascendant high technology of synthesizer pop.

The idea that rock still has any redemptive power or meaning is inimical to No Wave. Created by a generation that never experienced classic rock-and-roll firsthand, No Wave grew out of anger at historical disenfranchisement as much as anything. Punks and New Wavers, for all their outrage and defiance, sought to rebuild rock's integrity by returning to its foundation. No Wavers operated as doom prophets, docudramatists of demise, injecting realism into rock by suggesting that its promise of happiness—through sex, love, or, as punks would have it, social change—is hackneyed pop-culture propaganda.

BUT WITH ITS excoriating zeal No Wave has done more damage to itself than to rock's credibility. The first No Wave groups (which had little influence outside New York) disbanded in frustration. They left several albums—the best is the compilation *No New York*—and a number of "second" No Wave bands. Although less truculent and more accessible than their forebears, these new bands have limited impact, partly because the avant-rock scene is in disarray. Not that there is a shortage of venues or listeners: anyone who has observed the carnival of punks, young professionals, and owners and patrons of the brand-new galleries on the Lower East Side might assume that the vanguard is thriving. But actually there is only a hodgepodge of factions, affiliated to outlandish fashion and little else.

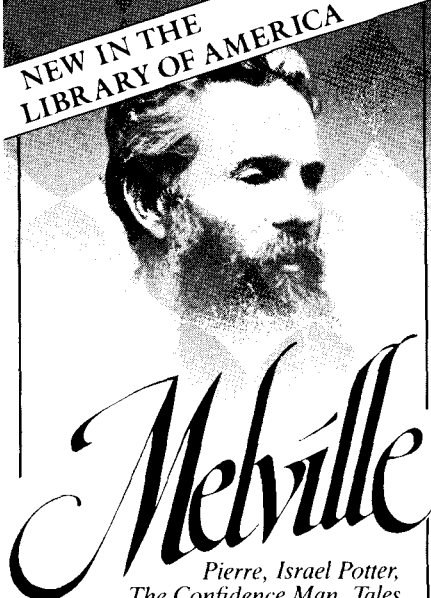
Despite the vaguely defined gestalt, New York's diffuse No Wave survivors continue to create compelling music. In some ways No Wave now resembles folk

music. Both styles are marginal, with strict formal boundaries, limited audiences, and traditions to maintain. Both styles will probably remain resident aliens in the land of popular culture. But the new No Wave's continuing outsider status has not led to a loss of commitment. Mofungo, for example, has been together about seven years, turning out music that is charmingly disheveled rather than dissonant. The band is distinguished by an agreeable presence and the working-class ethos of its lyrics—sharp departures from the fierce solipsism of the first No Wave. More-pointed agitprop comes from V-Effect, which mixes leftist sentiments with pushy, Latin-tinged rhythms. V-Effect's album *Stop Those Songs* is one of the best-sounding No Wave recordings, perhaps because the spare instrumentation—drums, bass, sax—encouraged a straightforward, uncluttered production.

In the noisier, orthodox No Wave school, Sonic Youth specializes in loud, multilayered guitar textures that can be aggressive or eerily dreamlike. Equally loud is Ut (short for utter? utopia?), a trio of women who started in New York and then relocated in London. Ut's preferred form is less like a song than a suite: long, metallic tone poems that unfold slowly, evolving by degrees to a feverish emotional pitch. The Swans are the quintessence of No Wave catharsis. The shattering, even unbearable power of the Swans smacks persistent wrecking-ball rhythms against an impregnable wall of drone. The group's onslaught sounds like the denouement of Western civilization—it levels the terrain.

But cataclysms are not the stuff of popular culture. Rock tastes were altered a little by punk and New Wave, but it is unlikely that the format of the pop song will give way to No Wave's anarchy. At best, No Wave persists as an anti-tradition, conceivably the last rock vanguard—its scorched-earth policy has left nothing to react against. Sometimes one wishes No Wave were not so averse to the rock principle of fun: the bands' uncompromisingly serious tone often justifies the usual criticism of "artiness." But as mainstream rock grows more predictable and innocuous, it can be heartening to hear a No Wave band bashing out its brutal vision. With its uncontrollable id, No Wave operates as the dark unconscious of rock. It could tell pop culture something it doesn't want to know. □

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FOOD

WHAT COOKING CLASSES TEACH

BY CORBY KUMMER

I USED TO THINK that learning to cook was a matter of being able to read. I made sure that a half-teaspoon of salt was perfectly level and that I took out the pot roast after two and a half hours exactly. If the veal stew called for Chardonnay and I could find only Chablis in the cabinet, I looked for another recipe. I took the same pleasure in cooking that I did in making bookshelves in shop class. I was excellent at following directions, the longer and more specific the better. I considered myself pretty much the equal of the authors of *Mastering the Art of French Cooking*, still unsurpassed as a teaching cookbook, and of Marcella Hazan, whose *Classic Italian Cooking* is another fundamental text. After all, I could make any of their recipes with precision.

Then I started going to cooking classes and found that the goal of a good teacher is to liberate students from cookbooks. I saw teachers deviate shockingly from recipes and heard them tell students to do the same once they understood the underlying principles. "A recipe is only a blueprint," Paula Wolfert, a virtuoso teacher, likes to say. The best teachers show both the structure of a

dish and how to alter it without ruining the end result. They insist that students feel and smell and taste and make terrible mistakes—learning to fix something is often more instructive than learning how to make it.

I was introduced to cooking classes at a school in Florence run by Giuliano Bugialli, a native Florentine and the author of three cookbooks in English. I left so exhilarated by the camaraderie I felt and the courage I had gained to tackle new materials that I searched out schools closer to home. Most communities offer some kind of cooking classes, and the best way to find them is to ask at a gourmet shop. The shop itself might sponsor classes, or it might refer you to local cooks giving lessons at home. Supermarkets often run classes as loss leaders. Many community colleges offer series of cooking classes. If you don't turn up anything after a few tries, you can write to the International Association of Cooking Schools (the address is 1001 Connecticut Avenue NW, Washington, D.C. 20036) for a list of schools in your area. Needless to say, the quality of instruction varies. But I learned something at each of the two dozen or so classes I've been to, even if it was only that nothing would make me like Tex-Mex. After watching many food celebrities and non-

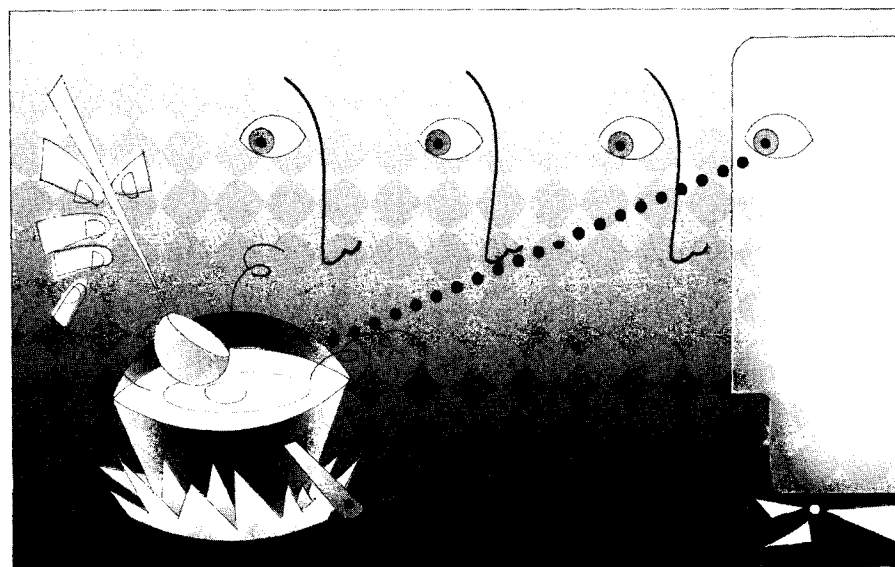
celebrities teach, I came to a few conclusions about what makes a cooking class valuable, and I reconsidered what can and cannot be learned from books.

THERE ARE TWO kinds of classes: demonstration and participation. At demonstrations a teacher stands at a counter covered with bowls and pre-measured ingredients (having been admonished more than once, I've disciplined myself to get everything ready and measured before I start cooking) and works through a series of recipes. Students ask questions, take notes, and, depending on the teacher's patience, sneak up to the table and taste dishes in progress. Everyone gets a little taste of the finished dish. Demonstrations are cheaper and easier to set up than participation classes, in which students work together under a teacher's supervision. For that reason they are more common.

Demonstrations are frequently given by visiting chefs or cookbook authors on publicity tours. They're shows, and a performer like Paula Wolfert not only entertains (even though you're supposed to watch the long mirror above the demonstration table, Wolfert's gestures and expressions are too good to miss) but also inspires students to go home and practice new techniques. The cook has to be a cross between a stand-up comic and a professor. Wolfert, a self-described show-off as well as an erudite food scholar whose field is Mediterranean cuisines, can galvanize an audience. So can Bugialli and Jacques Pépin, an experienced French chef and teacher who is one of the most admired and best-paid of all cooks who demonstrate. These three teachers use recipes as an excuse to give a steady stream of hints and explanations of basic techniques.

At cooking classes you pick up little tricks that make you feel like an insider. Teachers usually mention some in passing, and I always make sure I get them down. *Leek tops and tomato peels in a stock absorb the scum.* Suggestions like this are gold nuggets that make a class worthwhile, whatever the dross content. They also fill the minutes when a sauce has to reduce or meat has to broil—minutes some teachers let stay empty. Wolfert throws off more ideas, major and minor, while waiting for onions to soften than do most teachers while making a whole menu.

Giving the whys at every step is the mark of a good teacher. "Can you believe I've taken this long to spread this



Corby Kummer is an associate editor of *The Atlantic*.

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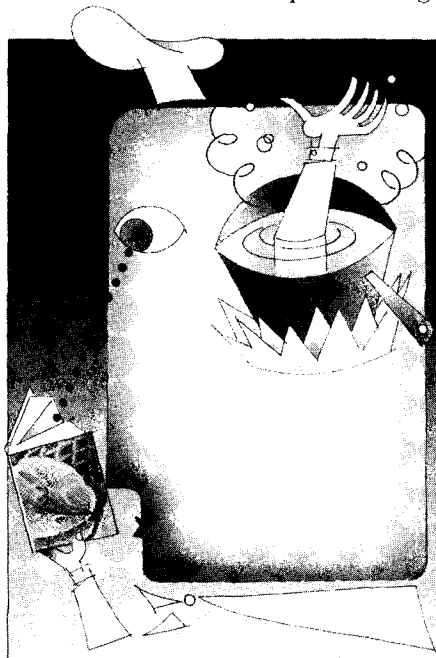
cake batter?" Flo Braker, the author of *The Simple Art of Perfect Baking*, asked at a recent demonstration, after compressing a whole chapter into the explanation of one recipe. Braker was so eager for students to understand what she was saying that she carried around bowls of batter and meringue to show exactly the consistency she recommended. *To make a meringue mount fully, wipe the bowl with a few drops of white vinegar and don't start adding the sugar until the egg whites begin to foam.* She refused to move on to the next step until she was sure that everyone was following her. I've been to demonstrations where I didn't know what was going on and was too embarrassed to ask. Braker encouraged stupid questions.

Most cooks who do demonstrations know that their primary job is to keep an audience amused for however long it takes to get through the recipes. For instance, people come to watch Sheryl Julian, who gives demonstrations at the Hotel Meridien in Boston, not because she trained at the Cordon Bleu (she did) but because she gets a crowd going. "Make sure your butcher is afraid of you," she'll say in the middle of boning a leg of lamb. "You'll get the best meat." She interrupts with little quizzes—What two foods were always served on white napkins in Victorian England? Asparagus and ice cream—and gives almost as many tricks as Wolfert does. *Put plates in the freezer so that ice cream will stick to them.* She has an unerring sense of when her audience is restless or hungry. "I'm passing around these cookies now, even though I haven't shown you how to make them yet," she said at one demonstration. "You all look like you need a pick-me-up."

AS MUCH FUN as watching a showman can be, a participation class is where what you learn really takes, because it enters your sensory memory and not just your notebook. Being warned by a teacher at a demonstration not to incorporate flour into bread dough too fast is different from being shown how to turn a lumpy mess in front of you into satiny dough. At a participation class the teacher can rescue you by adding more liquid (which makes the dough look like it belongs in a cement mixer) and then pummeling it until it looks like something you'd consider eating once it was baked.

That happened to me at Bugialli's school in Florence. (Bugialli also teaches in New York City and gives demonstrations all over the United States.) I saw

the first day why Bugialli is extremely popular: he takes away fear of cooking. After a forty-five-minute lecture the twenty or so students in a class divide into teams and start on the recipes. The idea is for each student, no matter how inexperienced, to get through them. Bugialli comes along and cuts half a rabbit the way he wants students to cut the rest, or shows how finely chopped the carrot and onion mixture for the beginning of a pasta sauce should be, or dresses a salad. *Mix salt with vinegar first, because oil won't dissolve salt.* He acts as if there's no trick at all to making fresh pasta or stuffing a breast of veal with a complicated forcemeat and weighting it overnight. Students take his cue. They run their handmade pasta dough



through a machine and cut it into *tagliatelle*, tie the breast of veal the way he showed at the lecture, and beat mayonnaise by hand, as he insists. The students may not have his finesse, but the food gets made and tastes good.

I felt the same sense of relaxed collaboration in New York City, at the classes of Lydie Marshall, a teacher of French provincial cooking. Both teachers have outgoing, forgiving personalities that break down inhibitions. After Bugialli and Marshall set things in motion, they give most of their instructions from the other side of the room, while in the middle of something else, and each team gets the idea that it is responsible for the final dish. In retrospect I realized that no one at either school made a decision without the teacher's approval. As I sat having coffee with Marshall after a

class, she went down a list of the students, telling me who could work with whom and who needed the most help and at which points. I'd had no idea that she was aware of any of these things. Marshall and Bugialli are model teachers, but a participation class does not require such magnetic leadership for success, the way a demonstration does. Being able to use your hands and palate is instructive by itself.

AN INCREASINGLY popular way to study cooking is to take a course abroad. Most food tours are really restaurant visits with an occasional demonstration by a professional chef, who may or may not be able to teach. A few schools in Europe, however, offer participation classes to enterprising tourists. Spending a vacation in another country taking a cooking course might seem like a waste of good sightseeing time, but you could find yourself agreeing with the theory that the ideal place to understand a culture is at the table.

One of the oldest and best of these schools is Marcella Hazan's, in Bologna, which I visited recently. Hazan's books are written with American readers and the ingredients available to them in mind. In their week-long classes Hazan and her husband, Victor, who is an authority on Italian wine, give students an idea of the compromises involved in trying to duplicate Italian cuisine with what is available in American grocery stores. The Hazans conduct tours of markets and cheese factories and vineyards (Bugialli does this too) and have bread, cheese, and wine tastings at breaks in each class. Learning why foods are combined the way they are makes students understand the variants in Hazan's books and what further substitutions they should make depending on what they can get. *If you can't find fresh rosemary and sage, buy only whole dried leaves and chop or crumble them to release their flavor.* Hazan does most of the cooking in her classes, which frustrates students; she is by turns maternal and brusque, which intimidates them. Still, by the end of the course they know a great deal more about Italian food and wine than they did at the start.

TEACHERS ABROAD, especially chefs who don't have premises where they can hold participation classes, can be excused for slighting basic techniques—they have a whole set of attitudes and flavors to introduce, and no

much time to do it in. You would think that cooking teachers in America would take the time to start at the beginning. Yet the majority of brochures for cooking classes advertise novelties like do-ahead Chinese appetizers and "hors d'oeuvres à la microwave." People seem to prefer learning exotic party recipes to mastering one or two important principles—or at least the organizers of the programs think they do.

I recently went to what looked like one of those novelty classes: "Fall for Italy," given by Sally Kofke at The Cookingstudio, a well-equipped teaching kitchen at King's Supermarket in Short Hills, New Jersey. Kofke is one of many teachers around the country who have studied with famous cooks *in situ* (New York, France, Italy) and returned to spread the word in a more complete way than those stars passing through ever could. Kofke has taken several courses from the Hazans. Having recently spent a month going to classes in Florence, Venice, and Bologna, I didn't expect to learn anything, but of course I did. Kofke has a cooking school in her house, in Montclair, New Jersey, where she teaches basic courses, and she knows how to pack a lot of techniques into one class. She ordered quail that hadn't been cleaned, for instance, and made students learn what to snip off and what to leave on (it was a participation class). Many had never seen a quail or used dried *porcini* mushrooms, and they came away wanting to experiment with both. I looked at The Cookingstudio's list of classes, assembled by Joanna Pruess, the school's director, with new interest. Even if a teacher is not a foreigner or classically trained, he or she can bring students far forward and pass on valuable advice. From Kofke: *Use a tall, narrow pot when poaching pears, so that you can use less liquid and make a more intensely flavored syrup.* Enthusiasm, a modicum of ability, and a desire to help students improve are more important than cachet or diplomas.

A useful class is not one that gives you some good recipes—although it's a pleasure to find them—but one that teaches techniques and introduces you to the unfamiliar. People who ask me about cooking courses want to learn the basics. The classes they seek are the most important and the hardest to find. Schools seem to start by offering one-shot classes, then series of classes with themes, and finally techniques classes if the others have made money.

Two schools that do offer an impressive variety of techniques classes for both beginners and aspiring professionals are Peter Kump's New York Cooking School and the Academie de Cuisine, in Bethesda, Maryland. I went to a class in New York on poaching. The teacher, one of many at Kump's school, was phlegmatic, and I got classroom fidgets. But I learned more about the science of cooking, about choosing ingredients and figuring out how to use them without consulting a recipe, than at almost any other class I have attended. By the end of the class the students knew what liquids to poach what foods in and for how long. They had learned all about butter sauces like hollandaise and béarnaise. They had boned several kinds of fish.

This sort of class helps you at the supermarket on the way home from work, and at the stove on a weeknight. It also helps you figure out which recipes are likely to work. Knowing what happens when butter and egg yolks are heated together makes me better able to read directions for sauces. I've become much better at spotting trouble in cookbooks than I used to be. But I've also begun to see that memorizing elementary principles and forcing myself to fly solo, no matter how uneven the results, is more valuable than reading the newest book of glamorous recipes.

At a demonstration in Boston to benefit the new American Institute of Wine and Food, based in San Francisco, I watched Julia Child make a brioche dough in a food processor. "Wouldn't that be better in a mixer with a dough hook?" I asked Sheryl Julian, who was standing next to me. She shrugged and kept looking at the mirror. "You don't understand," I said. "That's the kind of question that keeps me up nights."

She turned to me. "Then you'll never be a cook," she said. "You can learn how to do anything else by studying harder and harder, but the only way to learn to cook is by doing it. You want to know which way is better? Make it both ways and feel the dough. I'm way behind where I should be because I spent too many years wondering whether to use the mixer or the processor."

I realized how far I am from overcoming my craving for explicit directions. I still gravitate toward the cookbook section in any bookstore. But I know that short of having a group to collaborate with every night, classes are the best place to start learning how to be a cook. □



THE DUSE ENCHANTMENT

(or, how her heart caught fire over a Sambuca Romana.)

When they met, she was at the height of her powers, an actress adored, even worshiped, by all Italy. He, rising poet, novelist, journalist, was the pampered son of a wealthy landowner. Together, Eleonora Duse and Gabriele D'Annunzio were a memorable conflagration.

Both, it is said, were habitués of a certain Roman cafe. There D'Annunzio was introduced to the potent seduction of Sambuca Romana, Rome's remarkable liqueur distilled from berries of the wild elderbush. Its suavity and elegance appealed to his poet's sense of form; his ardent nature responded to the fire at its center.

It was on a warm evening in June that Duse and her coterie arrived at the cafe just as D'Annunzio's liqueur had been served. One of his friends insisted that he meet the great actress, taking him to her table. The full force of her beauty was overwhelming. Impetuously, he drew up a chair and fell deep into conversation.

As they talked, he toyed with his glass, dropping roasted coffee beans into it one by one until three floated there. Pausing to light a cigarette, he held the match for a moment close to the liqueur. A blue flame danced over its surface, matching the flame born at that instant in the hearts of poet and actress.

Thus began a relationship that for six years inspired them both: him to write plays for her to perform; her to performances of incandescent radiance.

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BOOKS



THE PRISONER OF FAME

BY ANTHONY BURGESS

MAILER: HIS LIFE AND TIMES
by Peter Manso.
Simon and Schuster, \$19.95.

NORMAN MAILER'S FAME is large and his immortality assured. But for precisely what is he famous and immortal? *The Naked and the Dead* is still the best of the war novels, Evelyn Waugh's *Sword of Honour* failing even to sidle into its class (too patrician, too Catholic, too unbloody and unfecal). What gives *The Naked and the Dead* distinction is its stiffening of sharp war reportage with the prophetic philosophy that, by coincidence, Orwell presented in *Nineteen Eighty-Four* (the books came out almost simultaneously in Britain): the future lies with power, and the Second World War is a rehearsal of the future; nevertheless, the capacity for free choice may descend upon men when they least look for it (as with the swarm of bees that sends the soldiers packing). That the book was stylistically derivative was either overlooked or pardoned: it owed a great deal to John Dos Passos, and its subject matter—like that of most American best sellers—was too important for its readers to wish to niggle over distinction or individuality in the writing. When, with *Barbary Shore* and *The Deer Park*, Mailer was accused of having failed to fulfill great promise, most of his

critics refused to see that he was only now beginning his literary career: *The Naked and the Dead* had been a kind of sport written by the Muse of American History with a certain assistance from Mailer, and now he had embarked on the heartbreaking business of forging a style.

And it is, in fact, as a stylist that Mailer deserves his fame and his immortality. Whereas Hemingway created the "simple, declarative sentence," which was apt for an age that wanted no more of the bloated, periodic rhetoric of a discredited liberalism, Mailer restored the baroque and salted it with new and dangerous condiments—existential violence, anal magic, Brooklyn street-boy expletives. But whether he was ever again, after his first book, to be regarded as a novelist—promising or achieved—should never really have been the point. Give him a subject—the battle of the sexes, the moon shots, Marilyn Monroe, Vietnam, the mindless violence of a Utah hoodlum and his opting for an outmoded lethe, ancient Egypt—and you can be sure of getting a rare and inimitable prose, which, like D. H. Lawrence's, takes mad chances and risks silliness to gain new tonalities and resonances.

Whether Mailer is an intelligent writer is another matter. He is certainly—again, like Lawrence—not a rational writer. As Lawrence located reality in the loins, Mailer, on the evidence of both *An American Dream* and *Ancient Evenings*, finds it in the anal tract. He has made some dangerous constataions, like that early one, vaguely Camusian, about the possibility of finding the moment of truth in an "existential" killing. He has been too fond of the term *existential*, and Iris Murdoch—whom Mailer

insisted on meeting in Oxford—failed to put him right as to its meaning. It is probably impossible to argue with Mailer, as it was with Lawrence. He has convictions in his gut, or lower, and for good or ill these make him what he is.

AMERICAN WRITERS differ from their European brothers and sisters in seeing their craft as a kind of key to a world bigger than literature. This is very un-Flaubertian: to the author of *Salammbô* (the only historical novel to which *Ancient Evenings* can be compared), art was all that mattered, and life was merely its raw material. Like Hemingway before him, Mailer has wanted the nonliterary world to take him seriously; like Fitzgerald before him, he has been a cause of scandal. His public personality has rubbed onto his art, which is very un-European and probably harmful. We all know about his many marriages and the slogging for alimony, the stabbing of a wife, the obstreperousness under drink or drugs, the unfortunate espousal of criminals as custodians of the truth or the way, the absurd political ambition, the tasteless obscenities in public addresses, the desire to be above all a public figure. That he has not been destroyed, as either a man or a writer, by his engagement with the dirty world is a testimony to his Brooklyn Jewish toughness and his basic literary integrity.

And now—a little too soon, I would have thought—we have his biography, or rather a do-it-yourself kit for the making of a biography. I cannot sufficiently deplore the production of biographies when their subjects are still alive. A book bigger than *War and Peace* about Solzhenitsyn was recently published, and it clearly suffers from the lack of

Anthony Burgess's most recent book is 99 Novels: The Best in English Since 1939.

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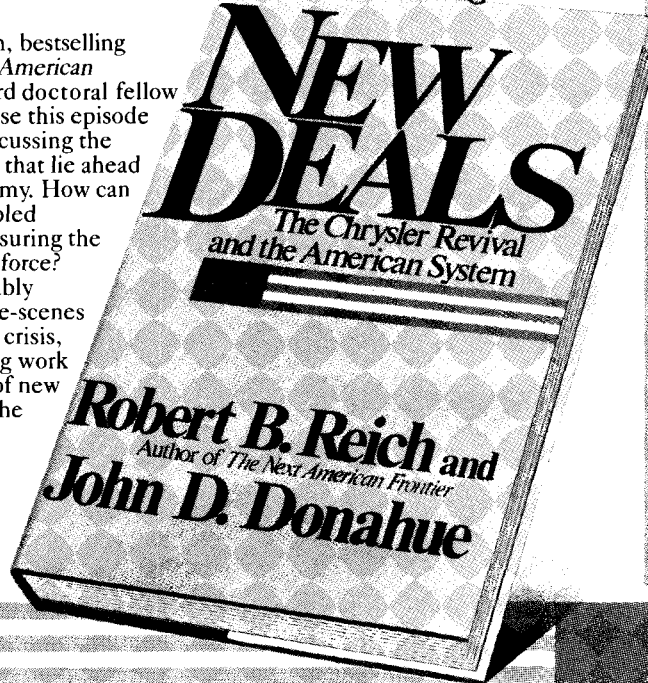
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cooperation of its subject, who can be adequately anatomized only when he is dead. Mailer is a mere child, and his biography can be no more than a kind of interim report. The subject of a life should sit still, or lie still. Moreover, he should have done his work, and a life's pattern ought to be discernible. Herbert Gorman's life of Joyce was written not only when *Finnegans Wake* was a long way from completion but with the handicap of the subject himself insisting on a hagiography featuring a prolonged, if proleptic, martyrdom. That is how Richard Ellmann, who was to write the real thing, put it. The real thing, which came out when both James and Nora Joyce had settled in their separate tombs in Zürich, not only has a perfect wholeness but is, as befits the life of a supreme stylist, itself a model of style. Like Boswell's masterpiece, perhaps the type of all great biographies, it also discloses an attitude: the biographer loves with a certain wryness, he knows his hero inside out, he relates the man to the work. Peter Manso's book is not that sort of thing at all.

The by-line is a kind of lie. Manso has not written this book. He has filled leagues, miles, versts, kilometers, of recording tape with reminiscences and observations from the people in Mailer's life. Because, in the manner of speech, this material is repetitive, vague, sometimes inaccurate, frequently slangy, and often obscene, Manso has done some editing, but he has not done much checking on matters of reliability. For instance, he has William Burroughs remembering the Edinburgh Writers' Conference of 1962. Mailer was there but not remarkably or even noteworthy there. Also present was Scotland's greatest poet, and conceivably the greatest poet of the English-speaking world, Hugh MacDiarmid. He is transformed into "Hugh McDermott, a frosty old Scots poet, quite a local celebrity." This is not good enough; there ought to be a corrective footnote.

But the real trouble with the whole insufficiently boiled-down boiling is divagation, irrelevance, gossip that sometimes entertains but rarely illuminates. All right, Mailer was a cook in the Army, and he did not know how to separate whites from yolks when making a platoon-sized lemon meringue pie; he was fond of skillet hash topped with canned pears; he made lousy chop suey. What does this signify in terms of his (nonmilitary) calling? Ellmann relates Joyce and

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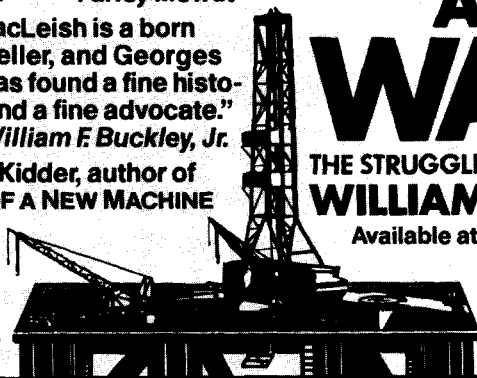
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THE ATLANTIC MONTHLY PRESS

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food to the eucharistic ceremonies of *Finnegans Wake*; Dr. Johnson's reconciliation of grossness and delicacy at table finds a parallel in a prose style both robust and exquisite. It is the lack of a pattern that damages Manso's collocation of ana (Johnson's term), and it is the lack of time to reconsider that damages certain dicta—for example, Alfred Kazin's observation to the effect that Jews divorce more because they are richer. The only contributor who emerges as wholly serious, compassionate, intelligent, and objectively critical is Diana Trilling.

If Mailer is primarily a writer, which he is, we need more about his writing than can be conveyed by snippets from reviews. The reviews themselves are nearly all from American periodicals, and Mailer's world status deserved a sampling from the world's critics, especially those British ones who were quicker to see his distinction than many of their American counterparts. There is often a sense, not only in respect of literary matters, that the reader is expected to come to the book equipped with the knowledge that it is the duty of a biographer to provide, and that he should be satisfied with the kind of commentary appropriate to journalism or gossip. It is rather like prolonged and rambling dinner-table conversation with no dinner. The primary task of a biographer is to provide a biographical narrative.

I am especially annoyed with this bound file of minutes on Mailer because the possibility of creating a useful biographico-critical work on the man (a kind of expansion of the brief book that has already appeared in the Modern Masters series) seems thus foreclosed. When time, money, and talent are spent on a bad film of a great book, the satisfactory film is indefinitely delayed. And the nature of this pseudo-biography is such that Manso has effectively preempted the materials from which another biographer, meaning a genuine one, could hack-out, with the appropriate literary pain, a work worthy of its subject. Let us have no nonsense about this. Biography is art and can be great art. But the bogus claims of taped "immediacy" may well in this electronic age prevail over the approach that was good enough for Boswell and, for that matter, Ellmann.

SIGHING, I ADMIT that some sort of "portrait" comes out of this rough, synoptic gallimaufry. It is an image of an American intellectual (if a term not real-

ly applicable to the Anglo-American culture can be used here) trying to cope with life in the United States. This meant jumping the barrier that excluded poor Brooklyn Jewry, into the ASP fastness of Harvard (Anglo-Saxons are necessarily W), where lack of Latin made him a kind of centaur—hoofs in engineering, snout in English. He ought to know Latin: Juvenal and Sallust might show him something of himself. He entered the war with the intention of writing a novel about it, a good motive for serving (though not perhaps as good as wanting to save the free world). He was in Hollywood young and, as Shelley Winters informs us, too sensible to be bemused or corrupted. Radical politics was then mandatory for one who had, with *Barbary Shore*, written a very interesting radical novel. The urge to be a kind of prophet—Lawrence's near undoing—explains Mailer's ventures into journalism and his hectoring, with jokes in doubtful taste, from various platforms. Add serial polygamy, multiple alimony, depression, pot, booze, scandal, and you have a fairly standard contemporary American literary life.

America is to Mailer, as his French friend and translator Jean Malaquais says, "cancerous" but the one mistress "to whom he remains faithful in a perennial love-hate affair." In his recent *Tough Guys Don't Dance* we have the telling phrase "I wanted my country on my cock," which may be taken as meaning a desire to love or rape his country, probably anally, into a sense of its destiny. I think that he, like many of his generation, was traumatized by Kennedy's assassination into a profound sense less of horror than an "existential" outrage should either confirm or deny democracy than of deep grief that the kind of renaissance prefigured in *The Presidential Papers* was now forever denied realization. Why he spent a decade on a novel about ancient Egypt has never been made fully clear (it was one of the jobs of this biography to give us at least the intimation of a reason), but the novel is surely partially about the problems of American rule, the importance of the irrational in American culture, and why great empires rise and fall. What is still awaited from him is a work of Tolstoyan weight, as opposed to mere Tolstoyan wordiness. Diana Trilling says:

I once asked him when he was going to write his *War and Peace*. He wasn't thrown by the question nor by its

June report on

ATLANTIC MONTHLY PRESS BOOKS



Paul Hatcher, a middle-aged film reviewer for a second-rate magazine, is divorced and lives alone in South Kensington. One morning he sees from his kitchen window, framed in a rear window of a maisonette opposite, two women and a dog, sitting together. He comes to believe that one of the women is not a woman, and that the other is frightened. For Hatcher, this is a real-life replay of Alfred Hitchcock's *Rear Window*.

Before he can stop himself, Hatcher is embroiled in the suicide of the woman who was not a woman, the murder of the other woman, his acquisition of an Alsatian dog, the squalid secrets of a British cabinet minister and an American aide to the President, a pornographic film festival in Liechtenstein, seduction by a Julie Andrews look-alike, a little mild torture, the British Secret Service, and (peripherally) the CIA.

The McGuffin, says Frank Kermode, is "frightening in its civilized way, and beautifully written. . . . This excellent thriller, so idiosyncratic and so polished, should find [John Bowen] a new public."

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by John Bowen

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elaboration: I went on to say that his *War and Peace* should be a novel of middle-class life, firmly rooted in established society, but that where Tolstoy had made his excursions into history, Mailer should make his excursions into dissidence.

Which, of course, is what I'd really like him to do, and it doesn't necessarily have to be a novel; it could be another *Armies of the Night*, or even autobiography. When you can see that somebody has the capacity to do something so uncommonly good, then you have to hold on to that and say, "Oh, boy, please, please come through."

As for what he's actually doing, John Leonard, a very honest and perceptive critic, says the right things:

I can imagine everything Bellow and Updike and other writers are telling me, but what's so characteristic of Mailer is that he's finding something, telling me something I couldn't have imagined beforehand. Which is why I trust him. He continues to astonish.

The capacity to astonish is precisely what is not featured in this loose, multivocal survey. What we chiefly have is the capacity to hit the headlines, shock with routine modes of polemical violence, and behave like any mixed-up American in an age that is hard enough, God knows, to understand but perhaps willing to yield its secrets to a sensibility like Mailer's. It was an unworthy thing to unleash so much mere gossip on that sensibility. □

trouble finding their like in European tradition. His theories on the reasons for the pattern of political development he has discerned depend upon Margaret Mahler's psychoanalytic interpretation of the stages of child development, and can no doubt be disputed by anyone who doubts the validity of Ms. Mahler's work, but Mr. Sagan has certainly made a persuasive case for seeing political growth as a parallel—rough but recognizable—of individual growth.

THE COMPLEAT COOK and A QUEEN'S DELIGHT by W. M. *University of Virginia*, \$22.95. W. M., identity unknown, claimed to have cooked for Queen Henrietta Maria and published the favorite royal recipes in 1655. The book remained in use for years, and one can see why from this facsimile of the edition of 1671. Despite the extravagant use of spices (so mingled that not one of them overrules) and the calls for Beef Pallats and Stroakings withal, W. M.'s dishes are clearly savoury meats. They are also well described—W. M. gave measurements, times, and temperatures quite conscientiously and threw in a few warnings as well (too much flour will make your pudding sad and heavy). It is amusing to try to deduce from the text the tools available to a seventeenth-century cook. The eggbeater was unknown, but a still was standard equipment.

ANCIENT ART OF THE AMERICAN WOODLAND INDIANS by David W. Penney, David S. Brose, and James A. Brown. *Abrams*, \$35.00. The authors complain that the surviving works—some as many as 5,000 years old—of the Indians who formerly inhabited the Mississippi and Ohio valleys and the southeastern states are generally considered from a purely archaeological standpoint. Their attempts to discuss these objects as art are gallant but doomed, because so little is known of those antique Indian cultures that the archaeological approach prevails even while the authors struggle to avoid it. No matter—the objects themselves, generously and handsomely illustrated, establish their own artistic dignity.

LANARK: A LIFE IN FOUR BOOKS by Alasdair Gray. *Braziller*, \$20.00. In Mr. Gray's previously published fiction fantasy was cleverly used to reinforce and enliven the author's denunciation of capitalist technological society. In the present novel fantasy has taken over and run wild, making the life of poor Lanark, an unap-

BRIEF REVIEWS



THE HOUSE OF SPIRITS by Isabel Allende. *Knopf*, \$17.95. Ms. Allende is a niece of the murdered former president of Chile, and the nameless Latin American country in which her novel is set is unmistakably her native land, for the story covers more than fifty years of identifiable Chilean history. It does so through the adventures of a single family plus retainers, tenant farmers, and camp followers. These characters, although endowed by the author with some remarkable eccentricities, are embodiments of social trends and influences rather than specific people. Events carry the tale and hold the reader's interest all the way.

YOUR TRUE MARCUS edited by Frank L. Byrne and Jean Powers Soman. *Kent State*, \$19.95. Marcus Spiegel, a German-Jewish immigrant of 1849, found in the United States the freedom and opportunity that he could not have hoped for in the old country. He was mightily grateful, and sprang to the defense of the Union when the Civil War broke out. He served in the 67th and 120th Ohio Volunteer Regiments, rising to the rank of colonel and seeing action in both the eastern and western sectors. Throughout his service Spiegel wrote voluminously to his family, and his letters, as presented in this collection, make a wonderfully vivid and detailed picture of military life from major battles to midget tents. The editors have pro-

vided extensive and very useful notes and have not tampered with the idiosyncratic spelling that arose from Spiegel's lingering German accent. One virtually hears the Colonel's voice. One also comes to see this proud, enthusiastic, not impractical idealist as a friend, whose death, when his luck finally runs out, causes real grief.

CRAMPTON HODNET by Barbara Pym. *Dutton*, \$14.95. Pym began her novel about self-important Oxford nonentities in 1939 and left it unpublished because she felt that the war had made it too dated. She was right. It is quite madly nineteen-thirtyish, but admirers of Pym's work will nevertheless enjoy it.

AT THE DAWN OF TYRANNY by Eli Sagan. *Knopf*, \$22.95. Mr. Sagan argues that all human organization progresses in the same way, from egalitarian kinship groups to what he terms "advanced complex societies." These, the last step before archaic civilizations, are pre-literate societies equipped with elaborate law codes and administrative systems, and ruled by kings of great authority and, usually, bloodthirsty methods. He illustrates the societies with fairly recent examples from Africa and from the South Seas. The material is fascinating, first because the kings and officials Mr. Sagan describes were intelligent, innovative, even attractive people, and second because the author has no

preciated artist misguidedly modeled on Gulley Jimson, nasty, brutish, and far too long.

TO THE FRONTIER by Geoffrey Moorhouse. Holt, Rinehart and Winston, \$17.95. Mr. Moorhouse is slow getting out of Karachi (either it is a dull town or he was unlucky in his encounters), but once outward bound for the Khyber Pass he becomes an admirable travel writer. He is informed on history from Mohenjodaro to Kipling to drug smugglers. He is observant, amusing, ingenious, and comfortably unheroic. He has a nice touch in describing the gaudy weather and scenery of the old Northwest Frontier and a gift for finding interesting people along his wandering route up the Indus all the way to Gilgit, on the Chinese border.

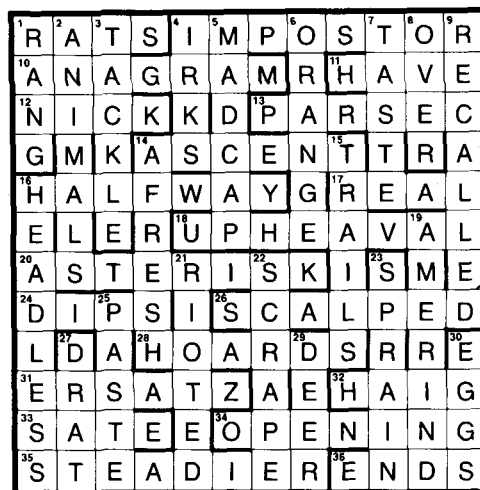
JOHN MASEFIELD'S LETTERS FROM THE FRONT 1915-17 edited by Peter Vansittart. Franklin Watts, \$18.95. Masefield, aged thirty-six and with a history of tuberculosis, was ineligible for military service in the First World War, but he made himself useful, first as a Red Cross volunteer and later as an "honorary second lieutenant without pay," assigned to write an account of the Battle of the Somme. Regardless of hard work, foul weather, and falling shells, he wrote regularly to his wife. "I wish," he complained, "that I could describe these things, so as to make people see them," characteristically underestimating his ability to evoke, simultaneously, "the smell of the power of death," the shell-torn countryside, and the vision of what that countryside had been before armies turned it into "a landscape in the moon, made of filth instead of beauty." It is astonishing that these superb letters have never been published before.

THE FALL OF THE HOUSE OF NIRE by Morio Kita. Kodansha International, \$16.95. Mr. Kita's final volume on the Nire family, hereditary proprietors of a slightly seedy Japanese mental hospital, lacks the comedy of the saga's earlier sections because it runs through the Second World War and necessarily chronicles the progressive loss of property, lives, and confidence. It also presents a convincing and touching picture of how ordinary Japanese citizens saw the war and what they suffered from it. The Nires, for all their previous prosperity and European training, end back where Grandfather started—in shirt-sleeves.

—Phoebe-Lou Adams

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to the
May
Puzzler,

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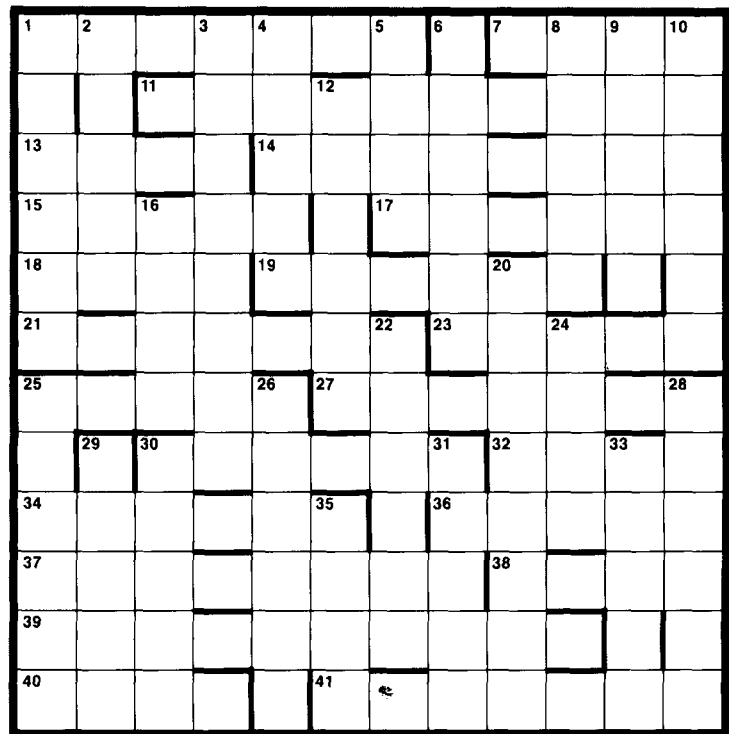
THE ATLANTIC PUZZLER

BY EMILY COX AND HENRY RATHVON

CODE-BREAKING

Before they will fit in the diagram, nine of the answers to this puzzle's clues must be encoded in the manner described by 11-Across and 39-Across. It is up to solvers to discover which nine answers are encoded. Answers include ten proper nouns.

*The answers to last month's
Puzzler appear on page 105.*



ACROSS

1. Tyrants ordered ass race (7)
7. Live next to excellent neighborhood (4)
13. Toss goose egg to wolf (4)
14. Exclusive lodge suffering setback in dispute (8)
15. Shelter with no front in garden spot (5)
17. Separate triumph for the nonce (6)
18. Offspring stars verbally (4)
19. O'Neal gets into portraying ancient tribesmen (6)
21. Beastly rustling sound circling in (7)
23. Thumbs down to a former President (5)
25. Stuck in walnut, a long nail (5)
27. Servants minced onions outside (7)
30. Cheap ribbon carried back by songbird (6) (*hyphenated*)
32. Stated Mr. Young's measurement (4)

34. Passes out in drifting snows, needing oxygen (6)
36. A graceful bird in Nile site (5)
37. Salty stuff ruined a sweater (8)
38. One free plant (4)
40. Girl's name used in operettas (4)
41. Drove Lorre character mad (7)

DOWN

1. Vehicle for money broken into by Capone (6)
2. Flying Rodan can be elaborate (5)
3. Monday's getting early bad weather (8)
4. Air-conditioning prepared car for West African city (5)
5. Canned meat quietly swallowed by Spade (4)
6. Former Cretan, in love, clasped by boyfriend (6)

8. Drops Iran's bombs (5)
9. Lee is peculiarly bovine (5)
10. Collectors hush during end of prayer (6)
12. Too bad about room's buzzers and bells (6)
16. Cook piece of bacon with grease (4)
20. Failure to include *Omni* is so crude (8)
22. Heartlessly cut shot (6)
24. Say it with furs for coquette (4)
25. Paper for *Time* edition (6)
26. Bad almonds left out for migrants (6)
28. Keeping close, couple went rambling (6)
29. That one holds ballpoint the wrong way, all thumbs (5)
30. Zwieback, as eaten by baby (5)
31. Bustle conceals a card (5)
33. Movie rage captures a country (5)
35. Check part of a watch (4)

Note: The instructions above are for this month's puzzle only. It is assumed that you know how to decipher clues. For a complete introduction to clue-solving, send an addressed, stamped envelope to The Atlantic Puzzler, 8 Arlington Street, Boston, Mass. 02116.





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